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ABSTRACT

As a follow-up to a 1981-82 formative evaluation of Scarborough's (Ontario) cooperative education program, an outcomes-oriented study of the program was conducted in 1983. The study, which involved surveys of cooperative education and control group students, employers, teachers, and parents, focused on program outcomes related to student attitudes toward school and attendance; student understanding of the world of work; and students', teachers', employers', and parents' perceptions of outcomes. Study findings included the following: (1) cooperative education students and control group students both had moderately positive attitudes toward school; (2) cooperative education students were absent from school more often than control group students; (3) there were no significant differences between the two groups with respect to students' understanding of employers' expectations in the world of work; (4) most students felt their program goals were being realized; (5) teachers perceived the program to have been very helpful for students; and (6) 97% of employers felt the program had helped students understand the world of work and 65% to 75% indicated that the program had helped their organization to become acquainted with a possible source of future employees. The survey instruments and detailed findings are included in the study report. (LAL)

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Addendum to Internal Evaluation Report No. 3: An Evaluation of Scarborough's Co-operative Education Program

Co-operative Education Sub-committee:

CAMERON A. COWAN (CHAIRPERSON)

Trev Baker
John Barker
Ruth Calman
Heather Corbin
Eleanor Farkass
Joan Farrell
Barry Hardcastle
Doug Lear
Judi Misener
Maryann Montgomery
Bill Oliver
Ken Page
David Reid
Ted Rogers
John Sanderson
Jack Slade
Kim Squires
Jim Stewart
Verla Stinson
Drucilla Travnicek

REPORT PREPARED BY: RUTH C. CALMAN

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SCARBOROUGH'S CO-OPERATIVE EVALUATION AND DEVELOPMENT OF SCHOOL SYSTEMS (CEDSS) PROJECT

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ADDENDUM TO INTERNAL EVALUATION REPORT NO. 3: AN EVALUATION OF SCARBOROUGH'S CO-OPERATIVE EDUCATION PROGRAM

SCARBOROUGH'S CO-OPERATIVE EVALUATION AND DEVELOPMENT OF SCHOOL SYSTEMS (CEDSS) PROJECT

February, 1984

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Ruth Calman, Research Associate

John Jansen, Co-operative Education Teacher

Doug Lear, Employer Representative

Judy Misener, Co-operative Education Resource Staff

Maryanne Montgomery, Co-operative Education Resource Staff

Ken Page, Co-operative Education Resource Staff

Drucilla Travnicek, Community Volunteer

Faye Whiklo, Co-operative Education Teacher

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TABLE OF CONTENTS

Chapter		Page
	ACKNOWLEDGMENTS	iii
	TABLE OF CONTENTS	v
	LIST OF TABLES	vii
I.	INTRODUCTION	1
II.	METHODOLOGY	5
	Additional Information on Student Instruments	5
	Methods of Data Analysis	10
III.	RESULTS: RETURN RATES	13
IV.	RESULTS: PROGRAM OUTCOMES	17
	Student Motivation	17
	Attitude toward School	17
	Attendance	20
	Student Understanding of the World of Work	30
	Students' Perceptions of Outcomes	33
	Retention of Students	33
	Reactions to Positive and Negative Statements	33
	Opportunities to Work on Modern Equipment	36
	Decision Making	37
	Differences between Types of Schools and Types of Collegiate Programs	39
	Teachers' Perceptions of Outcomes	40
	Differences between Types of Schools and Types of Programs	44
	Employers' Perceptions of Outcomes	45
	Parents' Perceptions of Outcomes	48

V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS 51
Summary of Results, Conclusions, and Recommendations Pertaining to Program Outcomes 51
Student Motivation 51
Student Understanding of the World of Work 55
Students' Perceptions of Outcomes 55
Teachers' Perceptions of Outcomes 57
Employers' Perceptions of Outcomes 58
Parents' Perceptions of Outcomes 59
Summary of Recommendations 60
REFERENCES 63
APPENDICES 65
A. Methodology Chapter from Internal Evaluation Report No. 3: An Evaluation of Scarborough's Co-operative Education Program 65
B. "How You Feel About School" and "Opinions About the World of Work" Inventories 81
C. Summary of Statistical Analyses Performed on Student Perceptions of Outcomes Data 89
D. Students' Perceptions of Outcomes by Group 97
E. Collegiate Teachers' Perceptions of Outcomes: A Comparison of Teachers' in Five Different Programs 125

LIST OF TABLES

Table No.		Page
II.1	"How You Feel About School": Correlation of Item Scores with Total Test Score by Group	7
II.2	"Opinions About the World of Work": Correlation of Item Scores with Total Test Score by Group	9
II.3	Employer Responses to 13 Items on the "Opinions About the World of Work" Instrument: Results from a Preliminary Attempt at Validation	11
III.1	Return Rates of Student Questionnaires	14
III.2	Return Rates of Parent and Employer Questionnaires	15
IV.1	"How You Feel About School" Mean Test Scores: Collegiate Students	18
IV.2	"How You Feel About School" Mean Test Scores: Secondary (Occupational) School Students	19
IV.3	"How You Feel About School" Mean Test Scores: Vocational School Students	19
IV.4	Starting Dates of Programs: Number and Percentage of Co-operative Education Students	24
IV.5	Number and Percentage of Control Group Students Assigned to Different Starting Dates	24
IV.6	In-School Absences of Co-operative Education and Control Group Students	26
IV.7	A Comparison of In-School and Training Station Absences of Co-operative Education Students	27
IV.8	"Opinions About the World of Work" Mean Test Scores: Collegiate Students	31
IV.9	"Opinions About the World of Work" Mean Test Scores: Secondary (Occupational) School Students	32
IV.10	"Opinions About the World of Work" Mean Test Scores: Vocational School Students	32
IV.11	Student Retention through the Co-operative Education Program: Student Self-Report Findings	34

LIST OF TABLES (Continued)

Table No.		Page
IV.12	Students' Perceptions of Program Outcomes: Responses to a List of Structured Questions	34
IV.13	Opportunities to Work on Modern Equipment: Perceptions of Business and Technical Education Students . .	37
IV.14	Effect of Program on Student Decision Making	38
IV.15	Overall Helpfulness of Program for Students: Perceptions of Teachers	40
IV.16	Teachers' Perceptions of Program Outcomes: Responses to a List of Structured Questions	42
IV.17	Other Major Benefits Derived by Students from the Program: Teachers' Responses to an Open-ended Question	43
IV.18	Problems Experienced by Employers' Organizations: A Summary of Responses to an Open-ended Question	47
IV.19	Positive Program Outcomes: A Summary of Parent Responses to an Open-ended Question	49
IV.20	Negative Program Outcomes: A Summary of Parent Responses to an Open-ended Question	50
IV.21	Problems Created for Families of Students in the Program: A Summary of Parent Responses to an Open-ended Question	50

I. INTRODUCTION

An evaluation of Scarborough's co-operative education program was undertaken as part of Scarborough's Co-operative Evaluation and Development of School Systems (CEDSS) project. This evaluation, carried out during the 1981-82 academic year, was viewed as being largely formative in nature and included an examination of program goals, program procedures, information related to future program development activities, and program outcomes.

Details of the study and results pertaining to goals, procedures, and most future program development activities were fully documented in an earlier report, Internal Evaluation Report No. 3: An Evaluation of Scarborough's Co-operative Education Program, (Calman, 1982). The present document is essentially an addendum to that report and contains results pertaining to program outcomes. The specific questions which were addressed with regard to program outcomes were as follows:

1. Student motivation: (a) Attitude toward school: To what extent does participation in the program affect students' attitude toward school? (b) Attendance: To what extent does participation in the program affect students' attendance at school? Is there a significant difference between in-school attendance and attendance at the training station?
2. Student understanding of the world of work: To what extent does participation in the program affect students' understanding of the world of work?
3. Students' perceptions of outcomes: In what ways, if any, and to what extent do students perceive the program to have been helpful?
4. Teachers' perceptions of outcomes: In what ways, if any, and to what extent do teachers perceive the program to have been helpful to students?

5. Employers' perceptions of outcomes: (a) In what ways, if any, and to what extent have employers found participation in the program to have been of benefit? (b) What problems, if any, have been experienced by organizations because of their involvement in the co-operative education program? (c) How many organizations have hired co-operative education students in the past two years?

6. Parents' perceptions of outcomes: (a) In what ways, if any, do parents perceive the program to have been helpful to their son/daughter? (b) In what ways, if any, has participation in the program created problems for the families of students who participated in the program?

As indicated in the initial report, there had been considerable discussion by the CEDSS Co-operative Education Internal Evaluation Sub-committee about the feasibility of obtaining reliable and valid information to answer the above questions. It was recognized that the time constraints of the study would render the gathering of outcome data very difficult. Opportunities to look at pre-post data would be limited, and most data would be, of necessity, obtained at a time when the majority of students would be only mid-way through their programs. However, since an evaluation of outcomes was deemed important, not only for providing information for program improvement but also for furnishing accountability data, it was decided to proceed with answering all questions as posed above.

It may be noted that the earlier report also outlined a plan for interviewing officials of union locals to find out their opinions of the co-operative education concept and to determine their willingness to become actively involved in the program. While a number of attempts were made in the spring and fall of 1982 to meet with representatives of union locals, most were unwilling to be interviewed. Furthermore, of the few who did agree to

take part, all indicated that it was a poor time to meet to discuss the program because of the current high level of unemployment. This view was also shared by union executives of the Labour Council of Metropolitan Toronto and the Ontario Federation of Labour. While both these groups were supportive of the study and were willing to co-operate with Scarborough staff in its implementation, they nonetheless advised that further contacts with officials of union locals be postponed until the general economic climate had improved. This advice was heeded and union interviews were postponed. Scarborough co-operative education resource staff, the group which had initially raised the questions about unions and which had been responsible for carrying out the interviews with union officials, will be continuing with this part of the study at a more suitable time in the future. No data pertaining to union interviews are included in the present addendum report.

II. METHODOLOGY

A detailed methodology, including a description of the specific survey populations, most of the research instruments, and methods of data collection and analysis, was provided in Internal Evaluation Report No. 3: An Evaluation of Scarborough's Co-operative Education Program. This methodology is reproduced in Appendix A for the convenience of the reader. In the following, additional information about two instruments included in the student questionnaire is provided, as well as additional details regarding data analysis. The reader is referred to the original report for complete copies of all survey instruments.

Additional Information on Student Instruments

Two instruments which were not described in detail in the earlier report, and which made up part of the student questionnaire, are the 22-item inventory "How You Feel About School" and a 24-item instrument entitled "Opinions About the World of Work". (See Appendix B.)

The "How You Feel About School" inventory is designed to measure students' attitude toward school and consists largely of items selected from the intermediate and secondary levels of the School Sentiment Index[1] (Instructional Objectives Exchange, 1972). The initial version of this instrument was pilot tested with 135 Grade 9 and Grade 12 students from three different types of schools--collegiate, secondary (occupational), and vocational. Based on results of the pilot testing, which were subjected to an item analysis[2], a number of items were replaced.

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[1]Seventeen of the 22 items in the final instrument were taken from the intermediate and secondary levels of the School Sentiment Index. Four of these 17 items were modified slightly.

[2]All item analyses were done by computer using the Laboratory for Educational Research Test Analysis Package. (See Nelson, 1975.)

While the final 22-item inventory was not retested prior to administration to co-operative education and control group students, an item analysis was carried out on the data obtained from the final test administration. The purpose of the item analysis was to determine the extent to which the items on the inventory were homogeneous--i.e., measured the same thing. Separate analyses were carried out on data obtained from students at the collegiate, secondary (occupational), and vocational school levels. The Hoyt reliability coefficient was calculated for each set of data and, as can be seen in Table II.1, was within acceptable limits in all cases (i.e., over .80).

"Opinions About the World of Work" is an instrument that was developed to test the attainment of a very specific program goal--"To develop in students an understanding of employers' expectations in the world of work". Fifteen specific objectives associated with this goal were identified. These objectives are listed below, along with the number(s) of the question(s) which was (were) designed to focus on each objective. Tangentially related questions are shown in brackets.

Objective	Question Number
To develop in students an understanding of the importance of:	
(a) punctuality	1, 18
(b) regular attendance	13, 16, 20, (4)
(c) appropriate dress	3
(d) meeting company standards regarding quality of work	6, 12
(e) meeting company standards regarding quantity of work	8, (2)

TABLE II.1
"HOW YOU FEEL ABOUT SCHOOL": CORRELATION OF ITEM SCORES WITH TOTAL TEST SCORE BY GROUP

Item No.	Collegiate Institute (N=397) r	Secondary School (N=97) r	Vocational School (N=26) r
1	.422	.353	.635
2	.415	.404	.213
3	.701	.713	.515
4	.617	.355	.681
5	.257	.261	.294
6	.523	.485	.371
7	.680	.583	.481
8	.561	.499	.794
9	.592	.494	.410
10	.661	.585	.734
11	.638	.531	.619
12	.443	.504	.034
13	.613	.518	.298
14	.463	.407	.537
15	.599	.535	.587
16	.673	.595	.476
17	.687	.670	.820
18	.416	.358	.051
19	.753	.565	.549
20	.566	.478	.455
21	.324	.213	.088
22	.565	.105	.350
	Hoyt r = .89 Standard Error = 3.87	Hoyt r = .82 Standard Error = 4.00	Hoyt r = .81 Standard Error = 4.72

(f)	meeting deadlines	5, (2), (6)
(g)	managing time effectively	2, (5), (6), (8)
(h)	working and getting along well with fellow employees and one's supervisor	11, 19
(i)	getting along well with customers	9, 15, 23, (5), (19)
(j)	being reliable	4, 21, (5)
(k)	being able to work independently	7
(l)	taking initiative	14
(m)	following company rules and regulations	22

To develop in students an understanding of the role of:

(n)	their supervisor	17, 24, (4), (20)
(o)	fellow employees	10

This instrument was pilot tested at the same time and with the same group of students as the "How You Feel About School" inventory described previously. Item analyses were performed on both pilot and final test data. Item analyses performed on pilot test data identified "poor" items to be deleted or modified. Results of item analyses derived from final test data indicated that items on the inventory indeed measured the same thing--presumably students' understanding of employers' expectations in the world of work. As can be seen in Table II.2, reliability co-efficients derived from final test data were within acceptable limits for the collegiate and secondary school samples (i.e., over .80). A slightly lower co-efficient, .74, was obtained for the vocational school sample.

To ensure test validity, both instruments underwent considerable item-by-item scrutiny by sub-committee members with regard to the judged relevance of the items to the objective in question. No further scrutiny of

TABLE 11.2
"OPINIONS ABOUT THE WORLD OF WORK": CORRELATION
OF ITEM SCORES WITH TOTAL TEST SCORE BY GROUP

Item No.	Collegiate Institute (N=397) r	Secondary School (N=114) r	Vocational School (N=27) r
1	.418	.410	.315
2	.490	.492	.202
3	.515	.394	.514
4	.559	.531	.330
5	.508	.537	.761
6	.433	.395	.143
7	.344	.253	-.017
8	.212	.237	.567
9	.471	.184	.578
10	.490	.370	.322
11	.483	.591	.681
12	.491	.498	.304
13	.492	.513	.358
14	.527	.667	.322
15	.490	.483	.208
16	.603	.463	.313
17	.471	.584	.564
18	.508	.423	.477
19	.411	.544	.437
20	.579	.541	.319
21	.522	.495	.471
22	.503	.555	.598
23	.518	.423	.470
24	.504	.575	.474
	Hoyt r = .85 Standard Error = 3.44	Hoyt r = .82 Standard Error = 3.62	Hoyt r = .74 Standard Error = 4.45

the "How You Feel About School" inventory was deemed necessary since this instrument was composed largely of items from the School Sentiment Index (Instructional Objectives Exchange, 1972) which had itself undergone considerable review in its development. However, since the "Opinions About the World of Work" instrument was entirely new, the need for a further validity check was indicated.

A preliminary attempt to validate an important underlying assumption of the "Opinions About the World of Work" instrument--i.e., that there are right and wrong answers to each question and that correct responses reflect the thinking of most individuals working in the capacity of "employer"--was carried out. The pilot instrument, which contained 13 of the 24 items making up the final instrument, had been administered to nine individuals who were working outside the board of education in an employer or supervisory capacity. Their responses to the 13 items which were retained, without modification, on the final test instrument are summarized in Table II.3. The average score on each of the 13 items was 4.50 with mean scores ranging from 4.22 to 4.89. While the sample size was very small, these high scores do nonetheless provide some additional support regarding the validity of the instrument. That is, the high scores indicate that employers' responses were in the predicted direction and that the underlying assumption of the instrument is probably tenable, at least with regard to these items.

Methods of Data Analysis

As indicated previously, details of data analysis are provided in Appendix A; specifically the reader is referred to pages 76 to 79. However, it should be noted that computer analysis of data included in this addendum report was carried out using either the Statistical Package for the Social Sciences (Nie, Hull, Jenkins, Steinbrenner, and Bent, 1975), SPSSx (SPSSx,

TABLE II.3

EMPLOYER RESPONSES TO 13 ITEMS ON THE "OPINIONS ABOUT THE WORLD OF WORK" INSTRUMENT: RESULTS FROM A PRELIMINARY ATTEMPT AT VALIDATION
(N=9)

Item		Mean Score[a]
1.	Arriving at work on time is very important.	4.78
4.	If your are sick and unable to report to work, you should let your supervisor know as soon as possible	4.89
5.	If you tell a customer that you will have materials ready for a certain day, being one or two days late will not make a big difference.	4.44[b]
10.	You are not likely to learn much from other employees who are doing the same job as yourself.	4.44[b]
11.	It is important to be friendly to others at work.	4.22
13.	If you are feeling tired because you went to bed late, it's alright to miss a day of work.	4.22[b]
14.	If you have finished all your tasks, you should check to see if if there is other work that needs to be done.	4.33
15.	If customers do something wrong, you should let them know how angry you are.	4.44[b]
17.	If you are unable to solve a problem at work on your own, the best solution is to try to forget it.	4.56[b]
18.	People generally don't mind if you are ten minutes late for an appointment.	4.22[b]
20.	If your supervisor is not the person who pays your salary, he/she will not care how often you are absent from work.	4.56[b]
21.	If you discover that you have given someone the wrong information, you should let that person know as soon as possible.	4.78
24.	A supervisor is there not only to make sure that you are doing your job properly, but also to give you help when you need it.	4.67
	Maximum Possible Total Score for 13 items:	65.00
	Mean Total Score Obtained by Employers:	58.60
	Mean Score Per Item Obtained by Employers:	4.50

[a] Mean score is based on 5-point scale where
1 = Strongly Disagree
2 = Disagree
3 = Not Sure
4 = Agree
5 = Strongly Agree

[b] Scoring for these items was reversed.

1983), or the Statistical Analysis System (SAS, 1982), unless otherwise indicated. The exact methods of data analysis and specific breakdowns of populations varied widely depending on the particular nature of the data and the questions being asked. Therefore, for the convenience of the reader, the specific methods of data analysis are provided in the appropriate results section of this addendum report.

III. RESULTS: RETURN RATES

Tables III.1 and III.2 show return rates for student, employer, and parent questionnaires. As Table III.1 indicates, the return rate for co-operative education students was 76 per cent. For the control group of students, the return rate was 84 per cent.

While student return rates are within the acceptable range, return rates for parents and employers (Table III.2) were considerably lower. This suggests that it is inadvisable to generalize findings to the total population of either of these two latter groups. Specifically, results suggest that findings may be generalized with confidence to 47 per cent of the parent population identified for study and to 56 per cent of the employer population.

Seventy-one of the 79 teachers making up our teacher population completed and returned their questionnaires. This return rate of 90 per cent is well within acceptable limits.

TABLE III.1

RETURN RATES OF STUDENT QUESTIONNAIRES

Group	Population N[a]	Questionnaires Completed and Returned No.	%
Co-operative Education Students			
Collegiate	367	297	81
Secondary	107	73	72
Vocational	36	23	64
TOTAL	516	393	76
Control Group of Students			
Collegiate	175	146	83
Secondary	51	43	84
Vocational	5	5	100
TOTAL	231	194	84
GRAND TOTAL OF STUDENTS	747	587	79

[a]Excluded from the total population figures are 30 students who had been misclassified as co-operative education students, 9 students who had retired, and 3 students who had graduated.

Note. From Internal Evaluation Report No. 3: An Evaluation of Scarborough's Co-operative Education Program, by R.C. Calman (C.A. Cowan, Chairperson), Scarborough Board of Education, 1982, 30.

TABLE III.2

RETURN RATES OF PARENT AND EMPLOYER QUESTIONNAIRES

Group	Total Population[a] N	Questionnaires Completed and Returned No.	%	Questionnaires Completed and Returned in Time for Computer Analysis No.	%
Parents	438	206	47	204	47
Employers	358	200	56	195	54

[a]Excluded from the total population figures are two parents and seven employers whose questionnaires were sent to incorrect addresses.

Note. From Internal Evaluation Report No. 3: An Evaluation of Scarborough's Co-operative Education Program, by R.C. Calman (C.A. Cowan, Chairperson), Scarborough Board of Education, 1982, 32.

IV. RESULTS: PROGRAM OUTCOMES

Student Motivation

(a) Attitude toward School

To what extent does participation in the program affect students' attitude toward school?

Analyses of students' responses to the "How You Feel About School" inventory were carried out separately for each of the collegiate, secondary, and vocational school groups. Two-way analyses of variance were performed on collegiate and secondary school data to allow for a comparison between the major groups (co-operative education and control) according to type of program (business education, technical education, etc.). Responses of collegiate re-entry students and a small number of secondary school students who had already graduated from high school[1] were excluded from the data analysis as the question of student motivation was not deemed to be of relevance for these groups. Vocational school data were analyzed using a t-test for independent samples. Since 25 of the 26 vocational school students were in the technical education program there was no need to examine program effects.

Results of statistical analyses (Tables IV.1, IV.2, and IV.3) indicated that there were no statistically significant differences between the co-operative education students and the control group students in their attitude toward school as measured by this instrument. These results were obtained regardless of type of school. However, as can be seen in Tables IV.1

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[1]Secondary school students who had graduated from high school by February, 1982, were instructed to omit this section of their questionnaire.

TABLE IV.1

"HOW YOU FEEL ABOUT SCHOOL" MEAN TEST SCORES:
COLLEGIATE STUDENTS
(N=343)

Program	Co-operative Education Group (N=235)		Control Group (N=108)		Combined Scores by Program	
	Mean Score for Total Test[a]	Mean Score per Item[b]	Mean Score for Total Test[a]	Mean Score per Item[b]	Mean Score for Total Test[a]	Mean Score per Item[b]
Business Education (N=166)	81.50	3.70	85.63	3.89	82.92*	3.77
Technical Education (N=83)	79.30	3.60	77.45	3.52	78.65*	3.58
Academic (N=19)	81.91	3.72	74.88	3.40	78.95*	3.59
Community Involvement (N=75)	81.90	3.72	86.00	3.91	82.67*	3.76
Combined Scores by Group	**81.12**	**3.69**	**82.69**	**3.76**	81.61	3.71

[a] Maximum Total Test Score = 110
[b] Maximum Score Per Item = 5
* Statistically significant difference between means based on two-way ANOVA $p<.05$. Significant differences between total test means are reported for combined scores only.

TABLE IV.2

"HOW YOU FEEL ABOUT SCHOOL" MEAN TEST SCORES:
SECONDARY (OCCUPATIONAL) SCHOOL STUDENTS
(N=75)

Program	Co-operative Education Group (N=51)		Control Group (N=24)		Combined Scores by Program	
	Mean Score for Total Test[a]	Mean Score per Item[b]	Mean Score for Total Test[a]	Mean Score per Item[b]	Mean Score for Total Test[a]	Mean Score per Item[b]
Business Education (N=11)	92.43	4.20	88.75	4.03	91.09	4.14
Technical Education (N=64)	85.75	3.90	84.95	3.86	85.50	3.89
Combined Scores by Group	**86.67**	**3.94**	**85.58**	**3.89**	**86.32**	**3.92**

[a] Maximum Total Test Score = 110
[b] Maximum Score Per Item = 5

TABLE IV.3

"HOW YOU FEEL ABOUT SCHOOL" MEAN TEST SCORES:
VOCATIONAL SCHOOL STUDENTS
(N=26)

Co-operative Education Group (N=22)		Control Group (N=4)	
Mean Score for Total Test[a]	Mean Score per Item[b]	Mean Score for Total Test[a]	Mean Score per Item[b]
84.36	3.83	84.50	3.84

[a] Maximum Total Test Score = 110
[b] Maximum Score Per Item = 5

to IV.3, total test mean scores (and mean scores per item) were moderately high and suggest moderately positive attitudes toward school on the part of both co-operative education and control group students within each type of school.

The two-way analyses of variance performed on collegiate and secondary school data showed no significant interaction effect between group and program ($p>.05$). That is, no significant differences between the responses of co-operative education students and those of the control group were observed for any particular type of program within either collegiates or secondary schools.

These same two-way analyses of variance did reveal a statistically significant difference in attitude toward school between students in the different collegiate programs ($p.<05$) but not between those in the different secondary school programs. As can be seen in Table IV.1, students in the collegiate business education and community involvement programs demonstrated better attitudes toward school than did students in the collegiate technical education and academic programs. However, while these differences are statistically significant, it should be emphasized that the degree of difference between these groups was nonetheless quite small.

(b) Attendance

To what extent does participation in the program affect students' attendance at school?

Attendance data were collected by teachers and principals for two major groups of collegiate students--co-operative education students and control group students. Omitted from the data collection were collegiate re-entry students, for whom, as indicated previously, the question of student

motivation (translated in this case as desire to attend school) was not deemed to be of relevance. In addition, although an attempt was made to collect data for collegiate academic students, it was discovered that most (21 out of 24) academic students in the co-operative education group were either in an alternative school where attendance records were not kept (N=10) or attended a training station on a part-time basis (N=11). Attendance data were not collected for secondary and vocational school students because of time limitations. Analysis of student attendance data was thus confined to collegiate students in three types of programs--the business education program, the technical education program, and the community involvement program.

In examining the effect of co-operative education program participation on in-school attendance, the attendance records of both co-operative education students and control group students for the previous year (September, 1980, to January, 1981) were first examined as a means of obtaining baseline data. Specifically, the percentage of in-school absences for the period September, 1980, to January, 1981, was calculated[1] for each student.

In comparing the baseline attendance of the co-operative education group and the control group of students, a two-way analysis of variance indicated that the co-operative education group had had a significantly higher absentee rate in 1980/81 (7.42%) than that of the control group (5.32%) ($p<.01$). This was a somewhat surprising finding since it may be recalled that the control group was composed of students who were registered to begin a co-operative education program in the second semester of the 1981/82 academic year;

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[1] The percentage was calculated by adding the total number of absences for the five-month period, dividing by the number of instructional days (not including examination days and professional Activity Days) and multiplying by 100.

therefore, it would have been expected that the pre-program attendance pattern of the control group would have been similar to that of co-operative education students. However, one known difference between the two groups which might account for the unexpected finding is that, whereas the co-operative education students attended full-year collegiate programs, all control group students were attending semestered schools. Observed differences in attendance patterns may well stem from a general phenomenon of better attendance patterns at semestered as opposed to full-year program collegiates.

The two-way analysis of variance showed no significant difference in the 1980-81 attendance of students in the three types of collegiate programs (business education, technical education, and community involvement) ($p>.05$) and no significant interaction effects were observed ($p>.05$). That is, no significant differences between the responses of co-operative education and control group students were observed for any particular type of program.

In analyzing the attendance patterns of both groups of students for the September, 1981, to January, 1982 period, co-operative education students were first assigned to one of three groups according to the starting date of their program:[1]

(a) Group 1--students whose co-operative education program began between September 7 and September 15, 1981.

(b) Group 2--students whose co-operative education program began between September 16 and October 15, 1981.

(c) Group 3--students whose co-operative education program began between October 16 and November 30, 1981.

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[1]One student whose program began after November 15, 1981, was excluded from this analysis.

Table IV.4 shows the number and percentage of co-operative education students in each of these three groups according to type of program. Seven of nine possible subgroups included students.

Control group students were then randomly assigned by computer to one of the seven subgroups so that the proportion of students in each subgroup would be comparable to the proportion of co-operative education students in that same subgroup (Table IV.5). For example, in comparing data in Tables IV.4 and IV.5, it can be seen that the same percentage of control group business education students (76%) was assigned to Group 1 as actually occurred in Group 1 of co-operative education students.

In determining the percentage of absences for the 1981-82 year, one of four procedures was followed. For co-operative education students, the number of in-school absences since the start date of their program was divided by the number of in-school days during the same period. For the control group students in Group 1, the number of school absences for the September, 1981, to January, 1982, period was calculated and divided by the total number of instructional days during that period (not including examination and Professional Activity Days) at the individual students's school. For control group students in Group 2, the percentage of absences in the October, 1981, to January, 1982, period was similarly determined. For control group students in Group 3, the percentage of absences in the November, 1981, to January, 1982, period was likewise determined.

Using these calculations as the attendance data base for the September, 1981, to January, 1982, period, a two-way analysis of co-variance was carried out. This procedure allowed for a comparison, by type of program, between co-operative education students and the control group students taking into account the previous year's attendance pattern for each student. Results of

TABLE IV.4

STARTING DATES OF PROGRAMS:
NUMBER AND PERCENTAGE OF CO-OPERATIVE EDUCATION STUDENTS

Group: Based on Actual Starting Dates	Type of Collegiate Program					
	Business Education (N=112)		Technical Education (N=40)		Community Involvement Program (N=67)	
	No.	%	No.	%	No.	%
Group 1: Sept. 7 - 15, 1981	85	76	17	43	67	100
Group 2: Sept.16 - Oct.15, 1981	24	21	22	55	0	0
Group 3: Oct.16 - Nov. 15, 1981	3	3	1	3	0	0

TABLE IV.5

NUMBER AND PERCENTAGE OF CONTROL GROUP STUDENTS
ASSIGNED TO DIFFERENT STARTING DATES

Group: Based on Assigned Starting Dates	Type of Collegiate Program					
	Business Education (N=63)		Technical Education (N=23)		Community Involvement Program (N=35)	
	No.	%	No.	%	No.	%
Group 1: Sept. 7 - 15, 1981	48	76	10	43	35	100
Group 2: Sept.16 - Oct.15, 1981	13	21	12	52	0	0
Group 3: Oct.16 - Nov. 15, 1981	2	3	1	4	0	0

the analysis (Table IV.6) indicated that the in-school absentee rate of co-operative education students was significantly higher ($p<.01$) than that of the control group, even when previous attendance patterns were taken into account. The figures in Table IV.6 clearly tell the story. As can be seen, the absentee rate for both groups of students rose sharply in the 1981/82 period. However, the increase in absenteeism for co-operative education students was nonetheless considerably greater than the increase evidenced for the control group of students. As had been the case for the 1980-81 baseline data, analysis of the 1981-82 data showed no significant differences between types of programs ($p>.05$) and no significant interaction effects ($p>.05$).

Is there a significant difference between in-school attendance and attendance at the training station?

The percentage of training station absences[1] was compared with the percentage of in-school absences[2] for all co-operative education students in the collegiate business education, technical education, and community involvement programs (Table IV.7). A t-test for correlated samples indicated that students were absent significantly more often from school than from their training station during the September, 1981, to January, 1982, period ($p.<.001$). Whereas the average absentee rate from a training station was 4.88 per cent, the average absentee rate from school was 11.52 per cent. That is, taking the modal number of training station days and in-school days for

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[1] This percentage was calculated by dividing the number of days absent from the training station between the start of the program and January 31, 1982, by the total number of training station days during that period and multiplying by 100.

[2] This percentage was calculated by dividing the number of days absent from school between the start of the program and January 31, 1982, by the total number of in-school days and multiplying by 100.

TABLE IV.6

IN-SCHOOL ABSENCES OF CO-OPERATIVE EDUCATION AND CONTROL GROUP STUDENTS

Group	Mean Percentage of In-School Absences[a]	
	Sept./80-Jan./81	Sept./81-Jan./82
Co-operative Education Students (N=211)	**7.42***	**11.55****
Business Education (N=107)	8.05	11.61
Technical Education (N=40)	6.03	13.83
Community Involvement Program (N=64)	7.22	10.02
Control Group Students (N=121)	**5.32***	**7.42****
Business Education (N=63)	6.45	7.73
Technical Education (N=23)	5.22	6.84
Community Involvement Program (N=35)	3.37	7.23

[a] Mean percentage figures were obtained from cell means of a two-way ANCOVA.

* Statistically significant difference between means based on two-way ANOVA ($p<.01$). Significant differences are reported for total groups only.

** Statistically significant difference between means based on two-way ANCOVA ($p<.01$). Significant differences are reported for total groups only.

TABLE IV.7

A COMPARISON OF IN-SCHOOL AND TRAINING
STATION ABSENCES OF CO-OPERATIVE EDUCATION STUDENTS

	No. of Students	Mean Percentage of Training Station Absences Sept./81-Jan./82	Mean Percentage of In-School Absences Sept./81-Jan./82	Mean Percentage of In-school Absences Sept./80-Jan./81
Total Group	**224** **214[a]**	**4.88*** **4.98****	**11.52***	**7.79****
Business Education	112 107[a]	4.81	11.38	8.21
Technical Education	41 39[a]	4.46	13.86	6.44
Community Involvement Program	67 64[a]	5.04	10.14	7.22

[a] Number of students and mean percentage figures in these rows are based on the slightly smaller sample of students for whom 1980-81 in-school attendance data were available. It should be noted that in-school percentages were calculated only for the period of time in 1980-81 which corresponded to the 1981-82 period during which the student was enrolled in the co-operative education program (i.e., for a period of three, four, or five months).

* Significant difference between in-school and training station absence means based on a t-test for correlated samples ($p<.001$). Significant differences are reported for total group only.

** Significant difference between in-school and training station absence means based on a t-test for correlated samples ($p<.001$). Significant differences are reported for total group only.

purposes of example, an average student would have missed only 2 out of 41 training station days, but would have missed close to 5 (4.8) out of 42 school days.

A one-way analysis of variance[1] showed no significant differences between students in the three different programs ($p>.05$). That is, collegiate co-operative education students in all three programs (business education, technical education, and community involvement programs) were absent from school more often than from their training station placements in more or less equivalent degrees.

In addition, because of the increase in school absenteeism observed for the 1981-82 period, a comparison was also made between the percentage of training station absences during program participation (September, 1981, to January, 1982) and the percentage of in-school absences for a comparable time period in the previous academic year (Table IV.7). A t-test for correlated samples indicated that students were absent significantly more often from school during 1980-81 than from their training station placements in the 1981-82 period ($p.<.001$). In summary, results indicated that the in-school absentee rate was higher both prior to, and during, program participation as compared with training station absences.

Two additional questions were raised after examination of attendance data findings. The first of these questions was:

(a) **How does overall attendance during program participation compare with pre-program attendance for a comparable time period in the preceding year?**

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[1] A one-way analysis of variance was carried out on difference scores, i.e., the difference between the percentage of school absences and the percentage of training station absences.

To answer this question, co-operative education students' overall rate of absenteeism during program participation was first calculated. This was done by summing the total number of in-school and training station absences for each student and dividing by the total sum of training station days and in-school days for each student. An averaging of the resulting percentage figures showed the overall absentee rate during program participation to have been 8.29 per cent (N=214).

Students' overall rate of absenteeism during program participation (8.29%) was then compared to their absentee rate during a comparable time period in the preceding academic year (7.79%). The results of a t-test for correlated samples showed no significant differences between the two time periods ($p>.05$). That is, the overall absentee rate for co-operative education students during program participation was not significantly different from their pre-program rate of absenteeism.

The second question which was raised was:

(b) **What is the relationship between students' school attendance prior to participation in the program and attendance at the training station?**

In order to answer this second question, a correlational analysis was carried out. Specifically, the percentage of training station absences during program participation (September, 1981, to January, 1982) was correlated with the percentage of school absences for the September, 1980, to January, 1981 period. Interestingly, results showed a close to zero correlation. (-.059). That is, results suggest that a student's school attendance prior to program participation will not be predictive of attendance at the training station.

Student Understanding of the World of Work

To what extent does participation in the program affect students' understanding of the world of work?

Students' responses to the "Opinions About the World of Work" instrument were analyzed in the same way as data obtained from the "How You Feel About School" inventory. Analyses were carried out separately for each of the collegiate, secondary, and vocational school groups, and responses of collegiate re-entry students were excluded.

Results of statistical analyses indicated that there were no statistically significant differences between the co-operative education students and the control group students in their understanding of employers' expectations as measured by this instrument. These results were obtained regardless of type of school. However, it may be noted in Tables IV.8 to IV.10 that scores for both co-operative education and control group students in all three types of schools were consistently high and suggest a good understanding of employers' expectations.

While no significant interaction effect between group and program was observed on the two-way analysis of variance performed on secondary school data, a marginally significant interaction effect ($p<.06$) was observed for collegiate results. Review of the data (Table IV.8) indicates that students in the co-operative education academic program obtained higher scores on the "Opinions About the World of Work" inventory then did academic students in the control group.

The two-way analyses of variance also showed significant differences between programs at both the collegiate ($p<.01$) and secondary school levels

TABLE IV.8

"OPINIONS ABOUT THE WORLD OF WORK" MEAN TEST SCORES:
COLLEGIATE STUDENTS
(N=343)

Program	Co-operative Education Group (N=235)		Control Group (N=108)		Combined Scores by Program	
	Mean Score for Total Test[a]	Mean Score per Item[b]	Mean Score for Total Test[a]	Mean Score per Item[b]	Mean Score for Total Test[a]	Mean Score per Item[b]
Business Education (N=166)	104.82	4.37	106.63	4.44	105.44*	4.39
Technical Education (N=83)	99.24	4.14	99.79	4.16	99.43*	4.14
Academic (N=19)	101.36	4.22	91.88	3.83	97.37*	4.06
Community Involvement (N=75)	100.38	4.18	102.79	4.28	100.83*	4.20
Combined Scores by Group	**102.22**	**4.27**	**103.20**	**4.30**	**102.53**	**4.27**

[a] Maximum Total Test Score = 120
[b] Maximum Score Per Item = 5
* Statistically significant difference between means based on two-way ANOVA $p<.001$. Significant differences between total test means are reported for combined scores only.

TABLE IV.9

"OPINIONS ABOUT THE WORLD OF WORK" MEAN TEST SCORES:
SECONDARY (OCCUPATIONAL) SCHOOL STUDENTS
(N=90)

Program	Co-operative Education Group (N=66)		Control Group (N=24)		Combined Scores by Program	
	Mean Score for Total Test[a]	Mean Score per Item[b]	Mean Score for Total Test[a]	Mean Score per Item[b]	Mean Score for Total Test[a]	Mean Score per Item[b]
Business Education (N=17)	105.15	4.38	105.75	4.41	105.29*	4.39
Technical Education (N=73)	99.94	4.16	99.05	4.13	99.70*	4.15
Combined Scores by Group	**100.97**	**4.21**	**100.17**	**4.17**	**100.76**	**4.20**

[a] Maximum Total Test Score = 120
[b] Maximum Score Per Item = 5
* Statistically significant difference between means based on two-way ANOVA $p<.05$. Significant differences between total test means are reported for combined scores only.

TABLE IV.10
"OPINIONS ABOUT THE WORLD OF WORK" MEAN TEST SCORES:
VOCATIONAL SCHOOL STUDENTS
(N=27)

	Co-operative Education Group (N=23)		Control Group (N=4)	
	Mean Score for Total Test[a]	Mean Score per Item[b]	Mean Score for Total Test[a]	Mean Score per Item[b]
	98.30	4.10	94.75	3.95

[a] Maximum Total Test Score = 120
[b] Maximum Score Per Item = 5

($p<.05$). Within the collegiates, business education students demonstrated the best understanding of employers' expectations, followed by community involvement program students, technical education students, and academic students respectively. Within the secondary schools, business education students also obtained higher scores than technical education students.

Students' Perceptions of Outcomes

In what ways, if any, and to what extent do students perceive the program to have been helpful?

Retention of Students

Table IV.11 documents, on the basis of student self-report, the extent to which the co-operative education program has served as a means of retaining potential school dropouts. Responses of all co-operative education students, except re-entry students, were analyzed. As can be seen, 70 students, or 19 per cent of the total group of 357 students, indicated that they had considered dropping out of school but decided to continue in school because of the co-operative education program.

Reactions to Positive and Negative Statements

Table IV.12 documents the responses of all 385 co-operative education students to eight positive and four negative statements about the co-operative education program. As can be seen regarding the positive statements, an overwhelming majority of students (80% or more in categories 4 and 5) indicated that the co-operative education program had given them a very good idea of what a full-time job would be like and that the program had given them more confidence. A significant majority of students (60-79%) also agreed that the program had helped them understand how to succeed at work, had put them in

TABLE IV.11

STUDENT RETENTION THROUGH THE CO-OPERATIVE EDUCATION PROGRAM: STUDENT SELF-REPORT FINDINGS (N=357)

Item	Mean Rating		Number (N) and Percentage (P) of Students per Response Category[a] 1	2	3	4	5	NA/NR
I had considered dropping out of school but decided to stay because of the co-operative education program.	2.28	(N)	113	98	21	33	37	(55)
		(P)	32	28	6	9	10	(15)

[a]1 = Strongly disagree
2 = Disagree
3 = Not sure
4 = Agree
5 = Strongly agree
NA/NR = Not applicable or no response

TABLE IV.12

STUDENTS' PERCEPTIONS OF PROGRAM OUTCOMES: RESPONSES TO A LIST OF STRUCTURED QUESTIONS (N=385)

Item	Mean Rating	Percentage of Respondents per Response Category[a] 1	2	3	4	5	NA/NR
Positive Statements:							
My co-operative education experience has given me a very good idea of what a full-time job would be like.	4.33	2	4	6	35	51	(3)
I have more confidence now because of my experience in the co-operative education program.	4.08	2	5	11	46	34	(3)
My co-operative education experience has helped me to understand how to succeed at work.	3.95	2	5	11	56	22	(3)
The job contacts I have made during my co-operative education program have put me in a better position to get a full-time job.	3.84	4	6	23	32	30	(5)

TABLE IV.12 (Continued)

Item	Mean Rating	Percentage of Respondents per Response Category[a] 1	2	3	4	5	NA/NR
My experience in the co-operative education program has taught me how to get along better with others.	3.83	2	9	13	51	21	(5)
My co-operative education experience has given me the opportunity to improve the skills I have learned in school.	3.79	5	8	13	43	24	(7)
Being in the co-operative education program has made my school subjects seem more relevant.	3.54	3	10	30	36	16	(3)
The things I have learned at my training station have helped me to better understand my school work.	3.31	5	17	28	33	11	(6)
Negative Statements:							
The tasks and duties which were assigned to me at my training station were boring.	2.32	24	43	12	11	7	(3)
At my training station, I have been unable to use anything that I learned at school.	2.41	22	42	15	11	8	(2)
There is no relationship between what I have learned at my training station and what I learn at school.	2.45	20	41	16	13	7	(3)
Since I started in the co-operative education program I have found school more boring.	2.62	15	40	18	15	9	(4)
I have learned few new skills at my training station.	2.89	17	33	6	26	15	(2)

[a]1 = Strongly disagree
2 = Disagree
3 = Not sure
4 = Agree
5 = Strongly agree
NA/NR = Not applicable or no response

a better position to get a full-time job, had taught them how to get along better with others, and had given them the opportunity to improve the skills learned in school. Considerably fewer students indicated that the program had made their school subjects seem more relevant (52%) or that the things they had learned at their training station helped them to understand their school work better (44%).

The percentages of students agreeing with negative statements about the program were relatively low, ranging from 18 per cent to 41 per cent. The negative statement with which the greatest percentage (41%) of students agreed was "I have learned few new skills at my training station". While this finding may accurately reflect students' perceptions, the possibility is raised that some students may have overlooked the word "few" in responding to what was likely a poorly worded question.

Twenty-four per cent of students also indicated that they found school more boring since starting in their co-operative education program. Twenty-per cent or fewer students indicated that they had been unable to use at their training station anything that was learned at school, that tasks and duties which were assigned at their training station were boring, or that there was no relationship between what was learned at the training station and what was learned at school.

Opportunities to Work on Modern Equipment

With regard to opportunities available to work on modern equipment through participation in a co-operative education program, the responses of business and technical education students, for whom this question was deemed to be most relevant, were examined. As can be seen in Table IV.13, 50 per cent of students enrolled in these programs indicated that they had had the opportunity to work on more modern equipment at their training stations than

was available at school (i.e., 50% in categories 4 and 5).

TABLE IV.13

OPPORTUNITIES TO WORK ON MODERN EQUIPMENT:
PERCEPTIONS OF BUSINESS AND TECHNICAL EDUCATION STUDENTS
(N=255)

Item	Mean Rating	Percentage of Respondents per Response Category[a]					
		1	2	3	4	5	NA/NR
I had the opportunity to work on more modern equipment at my training station than is available in school.	3.38	9	20	13	27	23	(8)

[a] 1 = Strongly disagree
2 = Disagree
3 = Not sure
4 = Agree
5 = Strongly agree
NA/NR = Not applicable or no response

Decision Making

Table IV.14 summarizes the responses of all students to a number of questions dealing with student decision making. Results suggest that the co-operative education program has had considerable impact on student decision making, although the type of impact has varied. For example, slightly more than half the students reported that the program had made them see the need for continued schooling; approximately one-quarter of the students indicated that their co-operative education experience had made them decide to enter the work force earlier than originally planned. The extent of impact is noteworthy, especially given the fact that students were generally only mid-way through their programs at the time of survey administration.

To determine the impact of the program on career decision making, data from the 69 per cent of students (N=267) who indicated that they had already

TABLE IV.14

EFFECT OF PROGRAM ON STUDENT DECISION MAKING

Student Group	No.	%
All Co-operative Education Students (N=385)		
My co-operative education experience has made me see the need to continue my schooling.	216[a]	56[a]
My co-operative education experience has made me decide to enter the work force earlier than I had originally planned.	102[a]	26[a]
Students Who Had Decided on a Career Before Taking Part in the Program (N=267)		
My co-operative education experience has made me sure of my decision.	147	55
I have changed my plans and have decided on a different type of job in the same field.	36	14
I have changed my plans and have decided on a completely different career.	26	10
I am now more confused about the kind of work I want to do.	20	8
My co-operative education experience has had no influence on my career decision.	32	12
No response	6	2
Students Who Had Not Decided on a Career Before Taking part in the Program (N=104)		
My co-operative education experience has given me a better idea of the kind of work I would like to do.	57[b]	55[b]
My co-operative education experience has given me a better idea of the kind of work I do not want to do.	21[b]	20[b]
I am still unsure as to the type of work I would like to do.	37[b]	36[b]

[a]Represents the number or percentage of students agreeing with the statement.

[b]These figures are not additive. Students were instructed to check any of the three statement that applied.

decided on the kind of work they wanted to do prior to taking part in the program were analyzed separately. The majority of this group indicated that the program had served either to reinforce their initial decision (55%) or to lead them to change their plans (24%). A presumably positive effect was also observed for the eight per cent of students who indicated that they were now more confused about the kind of work they wanted to do.

Of those who had not yet decided on a career before entering the program (N=104), 55 per cent indicated that the program had given them a better idea of the kind of work they wanted to do. Twenty per cent of these 104 students also indicated that the program had given them a better idea of the kind of work they didn't want to do. At the time of survey administration, 36 per cent remained unsure as to their future career choice.

Differences between Types of Schools and Types of Collegiate Programs

One-way analyses of variance were carried out to determine whether there were significant differences in student perceptions of program outcomes according to type of school (collegiate, secondary, or vocational) or type of program (business education, technical education, academic, re-entry, and community involvement). Tables summarizing the findings of these analyses are provided in Appendix C for readers interested in examining these differences.[1] While significant differences did exist, for the most part observed differences did not consistently favour any one particular type of school or any one type of program. The only consistent pattern had to do with vocational school students for whom a positive response set (i.e., a tendency to agree with statements) was observed. Results indicated that vocational school students were more likely to agree with statements (both positive and

[1]It is suggested that, in terms of educational significance, a difference in means of .50 or greater may be considered noteworthy.

negative) than students in similar programs in either collegiates or secondary schools.

Given statistical differences between programs, an examination of individual program results will probably be most helpful to teachers for individual program planning. Separate tables of results pertaining to students' perceptions of outcomes are therefore provided in Appendix D. These include tables for secondary school programs, vocational school programs, and each of the five collegiate programs.

Teachers' Perceptions of Outcomes

In what ways, if any, and to what extent do teachers perceive the program to have been helpful to students?

In answering the above question, analysis of teacher data was confined to responses of teachers with experience in the program. Included were teachers who were actively involved in the program between September and December, 1981, or who had been involved in the program in a previous year. However, the responses of re-entry teachers were excluded from analyses of questions about the helpfulness of the program in increasing student motivation in school and in retaining potential drop-outs. These issues were not deemed relevant for re-entry students and their teachers.

As can be seen in Table IV.15, teachers perceived the program, overall, to have been very helpful for students (mean rating 4.51 on 5-point scale).

TABLE IV.15

OVERALL HELPFULNESS OF PROGRAM FOR STUDENTS:
PERCEPTIONS OF TEACHERS
(N=62)

Mean Rating (5-point scale)	Percentage of Respondents per Response Category[a]					
	1	2	3	4	5	NR
4.51	0	0	11	26	61	(2)

[a] 1 = Of little or no help
5 = Very helpful
NR = no response

Teachers' perceptions regarding more specific program outcomes are summarized in Table IV.16. As can be seen, a large majority of teachers (70% or more of respondents in categories 4 and 5) perceived the co-operative education program as having helped students in the following six ways:

(a) to develop a clearer understanding of employers' expectations in the world of work

(b) to learn methods of meeting employers' expectations in the world of work

(c) to develop marketable job skills

(d) to improve self-esteem

(e) to clarify career goals

(f) to clarify plans for post high school education

A slight majority of teachers (55%) perceived the co-operative education program as having helped to reinforce the classroom learning of students. Fewer than half of the teachers (45%) perceived the program as having increased student motivation in school and even fewer (37%) perceived the program as having retained potential drop-outs in school.

These findings are generally consistent with previous findings (see Internal Evaluation Report No. 3) regarding teachers perceptions of the relative importance of different program goals. That is, five of the six ways in which teachers perceived the program to have been most helpful to students (see topics "a" to "e" above) also represent goals identified by teachers as being most important. Specifically, 65 per cent or more of teachers rated the goals associated with items "a" to "e" as being "of great importance". In contrast, the reinforcement of classroom learning, increasing student motivation in school, and providing an alternate form of education to students

TABLE IV.16

TEACHERS' PERCEPTIONS OF PROGRAM OUTCOMES: RESPONSES TO A LIST OF STRUCTURED QUESTIONS
(N=62)

Outcome	Rank Order	Mean Rating	Percentage of Respondents per Response Category[a]					
			1	2	3	4	5	NO/NR
Assisting students to develop a clearer understanding of employers' expectations in the world of work	1	4.67	0	0	8	16	74	(2)
Assisting students to develop marketable job skills	2	4.53	2	0	10	20	66	(3)
Teaching students methods of meeting employers' expectations in the world of work	3	4.50	0	0	10	29	58	(3)
Assisting students to clarify their career goals	4	4.47	2	0	10	26	60	(3)
Improving student self-esteem	5	4.33	0	0	15	37	47	(2)
Assisting students to clarify their plans for post high school education	6	4.07	3	3	18	31	40	(5)
Reinforcing classroom learning of students	7	3.74	2	10	26	29	26	(8)
Increasing student motivation in school[b]	8	3.62	2	8	41	20	25	(8)
Retaining potential drop-outs in school[b]	9	3.40	7	14	21	14	23	(20)

[a]1 = Of little or no help
5 = Very helpful
NO/NR = No opinion/No response

[b]The responses of six re-entry teachers were excluded from analysis of this item.

identified as potential drop-outs were perceived as being of "great importance" as goals by only 38 to 41 per cent of teachers.

The only notable difference between teachers' perceptions of the importance of specific goals and their perceptions of positive outcomes had to do with item "f". While the goal of "assisting students in clarifying their plans for post-secondary education received the lowest mean rating of any program goal (2.13 on a 3-point scale), with only 37 per cent of teachers perceiving this to be a goal of great importance, over 70 per cent of teachers perceived this program goal to have been achieved.

As can be seen in Table IV.17, relatively few teachers noted additional benefits in responding to an open-ended question. The most common responses, each noted by three teachers, had to do with "helping students find full-time or part-time jobs" and "contributing to social development and maturity".

TABLE IV.17

OTHER MAJOR BENEFITS DERIVED BY STUDENTS FROM THE PROGRAM: TEACHERS' RESPONSES TO AN OPEN-ENDED QUESTION (N=62)

Benefit to Students	Number of Teacher Reports
Helps students in finding full time or part time jobs	3
Contributes to social development and maturity (e.g., students develop a sense of personal responsibility	3
Provides a change of pace (variety) for Grade 12 students	1
Provides students with a sense of security, helps guide them	1
Increases students' appreciation of what they have learned in school	1
Provides students with a free apprenticeship type training	1

Differences between Types of Schools and Types of Programs

Data pertaining to teachers' perceptions of outcomes were subjected to statistical analyses to determine whether significant differences existed according to type of school or type of program. Results of t-tests for independent samples on the first factor (type of school) indicated that there were no significant differences between the perceptions of secondary and vocational school teachers regarding the overall helpfulness of the program or regarding any specific program outcomes. Both groups of teachers rated the program overall as very helpful (5-point scale mean ratings: secondary school, 4.80; vocational school, 5.00). With regard to the nine specific outcomes about which teachers were also queried (see Table IV.16 for this list of outcomes), mean ratings of both groups of teachers were consistently high and ranged, with one exception, from 4.00 to 5.00. (The one exception had to do with the helpfulness of the program in retaining potential drop-outs which received a mean rating of 3.50 by secondary school teachers).

On the second factor (type of program), statistical comparison of the responses of teachers in the five different collegiate programs indicated significant differences in perceptions regarding both the overall helpfulness of the program and two specific outcomes. These results, based on one-way analyses of variance, are tabulated in Appendix E. Specifically, it appears that technical education teachers perceived the program to have been less helpful overall than did teachers in most other programs and, in particular, less helpful with regard to improving student self-esteem. In addition, results indicated that more business education and community involvement teachers perceived the program to have helped retain potential drop-outs than had technical education and academic teachers.

Employers' Perceptions of Outcomes

(a) In what ways, if any, and to what extent have employers found participation in the program to have been of benefit?

This question, while directly involving program outcomes, was dealt with at considerable length in Internal Evaluation Report No. 3, especially in relation to employers' initial reasons for becoming involved in the program. For the convenience of the reader, some highlights from that section of the report are included here.

Specifically, results indicated that most respondents to the employer questionnaire felt that the program had been of benefit not only to students but also to their own organizations. In responding to a structured list of questions, 97 per cent of respondents[1] indicated that the program had helped students to understand the world of work. Between 65 and 75 per cent of respondents also indicated that the program had helped their organizations to become acquainted with a source of possible future employees, to understand in-school training programs, and to understand students and their attitudes as well as serving as a good public relations measure. While some employers had hoped for these outcomes when first becoming involved in the program, for many others these outcomes represented unexpected benefits. (See Internal Evaluation Report No. 3 for a more detailed account of these findings.)

In addition to responding to a structured list of questions, employers were invited to indicate other benefits derived by their organizations from

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[1] It should be noted that data analysis for this particular question excluded Scarborough Board of Education employees. The total sample size for this analysis was 169.

participation in the program. The most common responses, provided by eight employers, pertained to the extra assistance being provided to their company. In addition, a number of employers commented on the benefits being derived by students from participation in the program. These included the opportunity for students to learn about new developments in a particular field, to relate their school work to the world of work, and to mature more quickly and learn responsibility. It was also suggested that the program helped students to decide upon their careers and to choose appropriate school courses.

(b) What problems, if any, have been experienced by organizations because of their involvement in the co-operative education program?

Fourteen per cent of the respondents to the employer questionnaire (27 of 194 respondents) indicated that they had experienced problems as a result of their involvement in the co-operative education program. A summary of these problems is provided in Table IV.18. As can be seen, the most common problems were related to difficulties with individual students (e.g., students eventually dropped out or exhibited attitude or behaviour problems).

(c) How many organizations, if any, have hired co-operative education students in the past two years?

Seventy-one employers, that is, 37 per cent of the respondents, indicated that their organizations had hired students during the past two years. Analysis of the data indicated that at least 102 students had been hired at 70 different training station placements. It was also noted that, whereas most organizations had hired one student in the last two years, at least two organizations had hired as many as six students.

TABLE IV.18

PROBLEMS EXPERIENCED BY EMPLOYERS' ORGANIZATIONS: A SUMMARY OF RESPONSES TO AN OPEN-ENDED QUESTION (N=195)

Problem	Number of Reports
Students' attitude and/or behaviour was a problem/ company suffered due to problems experienced by students	5
Students dropped out, did not complete course, found work undesirable	4
Students experienced problems initially but these were corrected	2
Poor planning and/or poor communication with schools forced change in plans (e.g., student not well suited to job assignment)	2
Financial loss (e.g., due to recurrent errors in billing made by students; deliberate damage to a vehicle)	2
More students needed/schools unable to supply students for each ten-week period	2
Students varied in abilities, therefore, job had to be adapted for each student	1
Insufficient time to teach students what they should have learned at school	1
Shortage of work for students	1
Problems experienced in structuring the program and developing lines of communication	1

Parents' Perceptions of Outcomes

(a) In what ways, if any, do parents perceive the program to have been helpful to their son/daughter?

The vast majority (85%) of the 204 parents responding to the survey[1] indicated that the program had helped (was helping) their son/daughter. While a sizeable percentage (9%) did not know whether the program had been helpful, very few parents (3%) indicated that the program had not been helpful.

Table IV.19 summarizes the specific ways in which parents felt the program had been helpful. As can be seen, parents felt most commonly that the program had provided their son/daughter with a knowledge of the working world and/or specific skills. Many parents also indicated that the program had been of assistance with regard to career decisions and had helped improve their son's/daughter's self-confidence.

While relatively few parents perceived negative outcomes as a result of program involvement, it can be seen in Table IV.20 that the most frequently reported concern related to a perceived lack of sufficiently challenging or interesting learning opportunities at the training station.

(b) In what ways, if any, has participation in the program created problems for the families of students who participated in the program?

Only 15 parents, that is, seven per cent of those parents responding to the survey, indicated that their son's/daughter's participation in the program had created problems for them or members of their family. As can seen in Table V.21, the most common concerns related to expenses incurred as a result of participation in the program and hours of work. Each of these two problems was cited by four parents.

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[1]While 206 questionnaires were completed and returned, only 204 were received in time for computer data analysis.

TABLE IV.19

POSITIVE PROGRAM OUTCOMES: A SUMMARY OF PARENT RESPONSES TO AN OPEN-ENDED QUESTION (N=173)

Outcome	Number of Reports
Provided knowledge of working world, specific skills, work experience	82
Assisted with career decisions	53
Helped improve self-confidence	31
Helped him/her to recognize importance of education	19
Developed interest and enthusiasm about work (had not been interested in school/happier with school/kept student in school)	19
Developed sense of responsibility, mature attitude, independence	19
Expanded horizon (e.g., interest in business, working with people)	10
Prepared student for future	5
Provided a good work reference	5
Offered/is being considered for full-time job	4
Improved work habits	4
Earned money	3
Developed interest in personal appearance	2
Learned to co-operate	2
Better suited to student's capabilities than academic program	1
Kept him/her busy	1

TABLE IV.20

NEGATIVE PROGRAM OUTCOMES: A SUMMARY OF PARENT RESPONSES TO AN OPEN-ENDED QUESTION (N=8[a])

Outcome	Number of Reports
Work uninteresting, not sufficiently challenging, did not provide enough practical experience, limited learning opportunities	5
Did not provide true picture of working world	1
Work unrelated to students' career interests	1
Work unrelated to school course	1
Heavy load of subjects squeezed into fewer days	1
Wasted half a term until appropriate training station was found	1
Time would have been better spent at school	1

[a] Two of these respondents were not included in the computer data analysis.

TABLE IV.21

PROBLEMS CREATED FOR FAMILIES OF STUDENTS IN THE PROGRAM: A SUMMARY OF PARENT RESPONSES TO AN OPEN-ENDED QUESTION (N=15)

Type of Problem	Number of Reports
Creates a long day, makes family meals difficult, early hours disrupt family routine	4
Expenses	4
transportation costs	(2)
lunch costs	(1)
clothing (working requires additional wardrobe)	(1)
Required to loan family car to student (because he/she works nights, because bus trip takes one and a half to two hours each way)	2
Son/daughter must be picked up from work (student works far away in the evening)	1
Likes working and doesn't want to go back to school	1

V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The evaluation of Scarborough's co-operative education program was carried out as part of a system-wide evaluation project known as the Co-operative Evaluation and Development of School Systems (CEDSS) project. The evaluation of this program covered four broad areas: program goals, program procedures, information relevant to future program development activities, and program outcomes. All data collection was carried out between January and March, 1982. Data collection involved administration of questionnaires to co-operative education students, a control group of students, co-operative education teachers, employers, and parents of co-operative education students. Co-operative education teachers and principals were also involved in carrying out record searches in order to provide student attendance information.

Results pertaining to the first three areas described above were provided in an earlier report, Internal Evaluation No. 3: An Evaluation of Scarborough's Co-operative Education Program (Calman, 1982). The present report documents results pertaining to program outcomes.

Summary of Results, Conclusions, and Recommendations Pertaining to Program Outcomes

Student Motivation

(a) Attitude toward School: To what extent does participation in the program affect students' attitude toward school?

Responses of students to a 22-item inventory designed to measure attitude toward school were analyzed. Results indicated that both those

students who were soon to be starting in a co-operative education program (control group) and those who were at least part-way through their programs (co-operative education group) had moderately positive attitudes toward school with no significant differences evidenced between the two groups.

The failure to find significant differences in attitude may be attributed to a number of factors. First, it has been suggested that considerable time may be required to effect significant changes in attitude (Krathwohl, Bloom, and Masia, 1964); the current evaluation attempted to identify change after a period of no more than five months, at a time when most students were only mid-way through their programs. Second, the evidence suggests that most students probably had moderately positive attitudes toward school prior to participation in the co-operative education program; that is, the goal of increasing student motivation in school was likely inappropriate for many students in the program.

In concluding, then, although results clearly indicate that short term participation in the co-operative education program did not influence most students' attitude toward school in either a positive or negative direction, the possibility can not be ruled out that a significant attitude change might have been observed over a longer period of time and/or that the program might positively influence the attitude toward school of students who have a negative attitude prior to program participation.

(b) Attendance: To what extent does participation in the program affect students' attendance at school? Is there a significant difference between in-school attendance and attendance at the training station?

Results indicated that co-operative education students were absent from school more often than control group students. While records of both groups of

students indicated a rise in school absenteeism between the September to January 1980/81 and the September to January 1981/82 school periods, the increase for co-operative education students (from 7.42% to 11.55%) was considerably greater than that of control group students (from 5.32% to 7.42%).

A comparison of the in-school and training station attendance data for co-operative education students revealed that students were absent considerably less often from their training stations than from school. This held true when training station absences (average--4.88%) were compared with in-school absences for the period during program participation (average--11.52%[1]) as well as for a comparable period during the preceding school year (average--7.79%). No significant correlation between pre-program attendance and attendance at the training station was observed.

Interestingly, it may be noted that the overall rate of absenteeism for co-operative education students did not change significantly from the pre-program level. The pre-program (September, 1980 to January, 1981) rate of absenteeism was 7.79 per cent, whereas the overall absentee rate during program participation (September, 1981 to January, 1982) was 8.29 per cent.

In conclusion, while the reliability of the attendance data may be

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[1] Slight variations in percentage absenteeism figures are due to the fact that different statistical analyses, depending on their purpose, included slightly different groups of students. For example, 11.52 per cent represents the average in-school absenteeism rate for all students for whom training station attendance data were also available (N=224). On the other hand, 11.55 per cent (reported in the preceding paragraph) represents the in-school absenteeism rate during program participation for all co-operative education students for whom attendance data for the preceding school year were also available (N=211).

subject to question,[1] as may be the appropriateness of the control group,[1] present findings indicate that the immediate or short term effect of program participation is to increase the amount of school absenteeism. However, the increase in school absenteeism appears to be counterbalanced by a relatively low absentee rate at training station placements. In addition, results indicate that in-school attendance prior to program participation is not predictive of training station attendance.

Recommendation:

1. It is recommended that Recommendation #4 of Internal Evaluation Report No. 3: An Evaluation of Scarborough's Co-operative Education Program be reworded as follows:

That the issue of student motivation for students participating in a co-operative education program be studied further. Specifically:

(a) That students' attitude toward school prior to and following participation in the program be examined. In particular, that the attitude toward school of students in the student retention program be investigated.

(b) That the effect of student participation in the program on school attendance be studied further.

(c) That the reasons for observed differences between in-school and training station attendance be investigated.

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[1]The reliability of the data may be questioned because data were collected from existing school records, the accuracy of which could not be assessed. The appropriateness of the control group may be questioned because the control group consisted solely of students from semestered schools where attendance patterns may well differ from those at full-year program collegiates.

Student Understanding of the World of Work

To what extent does participation in the program affect students' understanding of employers' expectations in the world of work?

For the most part, there were no significant differences between the responses of co-operative education students and the responses of control group students to a 24-item questionnaire designed to measure students' understanding of employers' expectations in the world of work. Responses indicated that both groups of students had a good understanding of employers' expectations.

It may be concluded from these results that short term participation in the program does not affect co-operative education students' understanding of employers' expectations in the world of work. Furthermore, responses of the control group of students suggest that even prior to participation co-operative education students have a good understanding of employers' expectations regarding the items included in the test instrument (e.g., the importance of regular attendance, punctuality, etc.).

Recommendations.

1. That the specific objectives (as identified by the 24-item questionnaire) of the goal "to develop in students an understanding of employers' expectations in the world of work" be reviewed in order to determine the appropriateness of each objective for high school students.

2. That teachers consider "pre-testing" their students to determine their pre-program understanding of employers' expectations and build on existing knowledge during the program.

Students' Perceptions of Outcomes

In what ways, if any, and to what extent do students perceive the program to have been helpful?

Students' perceptions of outcomes suggest that, even mid-way through the program, most program goals are seen as being realized. In particular, the program appears to have provided students with a very good idea of what a full-time job would be like, to have helped students decide about their future education and future career, and to have given them more confidence. In addition, the program appears to have been instrumental in retaining a sizeable number of potential school drop-outs.

Student responses provide relatively little confirmation of achievement of the goal "to reinforce classroom content" or "to increase student motivation in school". In fact, there was some indication that, with regard to the latter goal, the reverse of what had been intended was occurring; 24 per cent of students reported that they found school more boring since starting in their co-operative education program. Finally, there are some conflicting data about the effect of the program on skill development, probably due to poor wording of one question.

These findings support two previous recommendations (Recommendation #3 in Internal Evaluation Report No. 3 and the revised version of Recommendation #4 included in this addendum report). These recommendations suggest that teachers need to ensure that there is a relationship between in-school and training station activities and that the issue of student motivation for students in a co-operative education program be studied further. In addition, support is provided for an expansion of previous Recommendation #5 and for one new recommendation as indicated below.

Recommendations.

1. That Recommendation #5 of Internal Evaluation Report No. 3: An Evaluation of Scarborough's Co-operative Education Program be reworded as follows:

That students identified as potential drop-outs be encouraged to participate in either a regular co-operative education program or a co-operative education student retention program. Teachers, administrative staff, and guidance staff should be made aware that the program may serve as a means of retaining potential drop-outs in the school system.

2. That guidance counsellors in each school be made aware of the positive effect of the program on career decision making and be encouraged to recommend the program to students in this regard.

Teachers' Perceptions of Outcomes

In what ways, if any, and to what extent do teachers perceive the program to have been helpful to students?

Teachers with experience in the program perceived the program, overall, to have been very helpful for students. As had been the case with students' responses, teachers' perceptions of program outcomes suggest that most program goals have been achieved. Specifically, the large majority of teachers perceived the program as having helped students in the following ways:

(a) to develop a clearer understanding of employers' expectations in the world of work

(b) to learn methods of meeting employers' expectations in the world of work

(c) to develop marketable job skills

(d) to improve self-esteem

(e) to clarify career goals

(f) to clarify plans for post high school education

Also consistent with students' perceptions were the findings that relatively low percentages of teachers perceived the program as having helped

to reinforce the classroom learning of students or as having increased student motivation in school. The possibility is raised that these latter findings are related to the fact that the reinforcement of classroom learning and increasing student motivation in school were rated relatively low in importance as goals by teachers.

Somewhat inconsistent with information obtained from students, which had revealed that 19 per cent of students (N=70) had considered dropping out of school but decided to continue because of the co-operative education program, was the finding that only 38 per cent of teachers perceived the program as having retained potential drop-outs in school. While it is possible that all 70 students were students of a small subgroup of teachers, it seems likely that many teachers were unaware that their students had considered dropping out of school and had been influenced in their decision to continue by the availability of the co-operative education program.

Findings pertaining to teachers' perceptions of outcomes support, as had student results, Recommendation #3 of Internal Evaluation Report No. 3 and the revised versions of Recommendations #4 and #5 included in this report.

Employers' Perceptions of Outcomes

(a) In what ways, if any, and to what extent have employers found participation in the program to have been of benefit? (b) What problems, if any, have been experienced by organizations because of their involvement in the co-operative education program? (c) How may organizations, if any, have hired co-operative education students in the past two years?

As indicated in Internal Evaluation Report No. 3, most respondents (97%) to the employer questionnaire felt that the program had helped students to understand the world of work. In responding to a structured list of questions, a large percentage of employers (65%-75%) also indicated that the program had helped their organization to become acquainted with a source of

possible future employees and to understand students and their attitudes, as well as serving as a good public relations measure.

While relatively few respondents (27, or 14%) indicated that they had experienced problems as a result of their involvement in the program, they generally reported that difficulties which arose had to do with students dropping out of the program or students exhibiting attitude or behaviour problems.

Thirty-seven per cent of respondents (71 employers) indicated that they had hired students during the past two years. Analysis of the data indicated that at least 102 students had been hired at 70 different training stations over a two-year period.

While the relatively low response rate of employers (56%) prohibits generalizing findings to all participating employers, it is clear that, of these who responded, most had very positive perceptions of the program. The large number of students having been hired by participating organizations certainly indicates that there are positive rewards of the program for employers as well as students.

Recommendation.

1. That the findings of this study pertaining to the hiring of students be well publicized among teachers and central office staff. Consideration may be given to using these findings in publicizing the program among students, parents, potential employers, and school administrative staff.

Parents' Perceptions of Outcomes

(a) In what ways, if any, do parents perceive the program to have been helpful to their son/daughter? (b) In what ways, if any, has participation in the program created problems for the families of students who participated in the program?

The vast majority of parents responding to the survey indicated that the program had helped (was helping) their son/daughter. Parents most commonly felt that the program had provided their son/daughter with a knowledge of the working world and/or specific skills required. Many parents also indicated that the program had assisted their son/daughter in making a career decision and had been instrumental in improving their son's/daughter's self-confidence.

Relatively few parents perceived negative outcomes for either the student or the family as a result of program involvement. The most frequently reported student-related concern (N=5) had to do with a perceived lack of sufficiently challenging or interesting learning opportunities at the training station. The most common family-related concerns related to expenses incurred as a result of program participation (N=4) and hours of work (N=4).

While the relatively low response rate of parents (47%) prohibits generalizing findings to parents of all participating students, it is clear that, of those who responded, most had positive perceptions of program outcomes.

Recommendation.

1. That, where students receive no, or limited remuneration at their training station, extra expenses which may be incurred by students due to program participation be reviewed and procedures instituted to ensure that such expenses do not become burdensome to students or parents.

Summary of Recommendations

1. It is recommended that Recommendation #4 of Internal Evaluation Report No. 3: An Evaluation of Scarborough's Co-operative Education Program be reworded as follows:

That the issue of student motivation for students participating in a

co-operative education program be studied further. Specifically:

(a) That students' attitude toward school prior to and following participation in the program be examined. In particular, that the attitude toward school of students in the student retention program be investigated.

(b) That the effect of student participation in the program on school attendance be studied further.

(c) That the reasons for observed differences between in-school and training station attendance be investigated.

2. That the specific objectives (as identified by the 24-item questionnaire) of the goal "to develop in students an understanding of employers' expectations in the world of work" be reviewed in order to determine the appropriateness of each objective for high school students.

3. That teachers consider "pre-testing" their students to determine their pre-program understanding of employers' expectations and build on existing knowledge during the program.

4. That Recommendation #5 of Internal Evaluation Report No. 3: An Evaluation of Scarborough's Co-operative Education Program be reworded as follows:

That students identified as potential drop-outs be encouraged to participate in either a regular co-operative education program or a co-operative education student retention program. Teachers, administrative staff, and guidance staff should be made aware that the program may serve as a means of retaining potential drop-outs in the school system.

5. That guidance counsellors in each school be made aware of the positive effect of the program on career decision making and be encouraged to recommend the program to students in this regard.

6. That the findings of this study pertaining to the hiring of students be well publicized among teachers and central office staff. Consideration may be given to using these findings in publicizing the program among students, parents, potential employers, and school administrative staff.

7. That, where students receive no, or limited remuneration at their training station, extra expenses which may be incurred by students due to program participation be reviewed and procedures instituted to ensure that such expenses do not become burdensome to students or parents.

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APPENDIX A

Methodology Chapter from Internal Evaluation Report No. 3: An Evaluation of Scarborough's Co-operative Education Program

II. METHODOLOGY

A variety of data collection techniques was used to answer the questions selected for evaluation. These included administration of questionnaires, interviewing, and record and document searches. In the following, a description will be provided of the specific survey populations, the research instruments, and the methods of data collection and analysis.

Survey Populations

Populations Completing Questionnaires

Questionnaires were administered to five different populations. These were:

a) Co-operative education students: all students in collegiate institutes, secondary schools, and vocational schools whose co-operative education programs began between September 8, 1981, and December 22, 1981 (i.e., during the period beginning and ending with these dates).

b) Control group of students: all students in collegiate institutes, secondary schools, and vocational schools whose programs began on or after January 25, 1982, and who were not scheduled to be at a ten-week block placement at the time of questionnaire administration[1].

c) Co-operative education teachers: all teachers who were operating, or who in an upcoming semester would be operating, a co-operative education program. (It should be noted that many "subject" teachers at the secondary school level were participating in the program by assisting "co-operative

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[1]Definitions (a) and (b) ensured that, at the time of questionnaire administration, all co-operative education students were at least mid-way through their program and that the control group of students had not yet started, or were just starting, their program.

education teachers" in the monitoring of students. While subject teachers in one such school completed questionnaires, these teachers did not form part of the co-operative education teacher population. The results for this one school will be reported separately and will be made available to co-operative education staff in that school only.)

(d) "Employers": the company supervisor or contact person of each student assigned to a training station between September 8, 1981, and December 22, 1981. It will be noted that this group included certain Scarborough Board of Education staff (e.g., staff in central office who were supervising students, etc.).

(e) Parents of co-operative education students: parents of all students, except re-entry students, who began participating in the program between September 8, 1981, and December 22, 1981.

It should be emphasized that, while an attempt was made to survey total populations, as described above, up-to-date, accurate population lists were not readily available for any of the populations. Lists were compiled from information obtained from central office staff, school staff, and the Scarborough Board's computer centre. While considerable effort was expended in compiling these lists, it is likely that a small number of omissions did occur. (At the time of writing of this report, it was known that at least one teacher, six students, and the parents of these students had been omitted from the original population lists.)

Populations Participating in Interviews

Interviews with officials of union locals are now in progress. Lists of union locals and names of the elected executive for each local are being

provided by the Metropolitan Trades and Labour Council and the Provincial Executive of the Canadian Union of Public Employees. At the time of writing of this report, only partial lists had been provided. However, it is known that the final lists will represent a biased sample population in that all union locals included will have agreed, after interchange with the Metropolitan Trades and Labour Council or with the Provincial Executive of the Canadian Union of Public Employees, to participate in the survey. (It will be noted that, in order to describe this sample population better, an attempt is being made to document the number and characteristics of union locals who refused to participate in interviews.)

Data Collection Instruments

Student Questionnaires (Appendix A)

(a) Survey of Co-operative Education Students - Form A (Collegiate)

(b) Survey of Co-operative Education Students - Form A (Secondary and Vocational)

(c) Survey of Co-operative Education Students - Form B (Collegiate)

(d) Survey of Co-operative Education Students - Form B (Secondary and Vocational)

Although all four student questionnaires listed above were entitled "Survey of Co-operative Education Students", Form A was specifically designed for the control group of students who, it may be recalled, were just starting or just about to start their co-operative education program. "Survey of Co-operative Education Students", Form B, was designed for students with experience in the program.

Both Form A and Form B begin with a brief introduction and are followed by a section requiring the student to supply relevant background information. Background information was obtained not only for purposes of acquiring appropriate information by which to divide populations into specified subgroups (e.g., according to type of school or type of program), but also to develop a profile of the type of student currently taking part in the program. Specifically, all students were asked to indicate their school, sex, grade, marks last year, start date of the program, type of program, number of years in the program, and name of training station placement. In addition, collegiate students were asked to specify the number of courses being taken at each of five levels (basic, general, combined, advanced, and scholarship) and the level at which they were taking their English and mathematics courses. It may be noted that this additional request for information from collegiate students represents the only difference between the collegiate and the secondary and vocational school questionnaires.

The background information section is followed by two sections which are identical on all student questionnaire forms and which constitute the remainder of Form A. Specifically, the first of these sections, "How You Feel About School", is a 22-item inventory developed to measure students' attitude toward school. The second section, " Opinions About the World of Work", is a 24-item test developed to measure students' understanding of employers' expectations in the world of work.

The final section of Form B, "Your Opinions About the Co-operative Education Program", is designed to document students' reasons for taking part in the program and to obtain their opinions about scheduling, training station placements, supervision, and program outcomes.

The student questionnaires are composed predominantly of structured questions, although a number of open-ended questions are included. While most of the questions and test items are newly developed, a selection of items from the School Sentiment Index (Instructional Objectives Exchange, 1972) formed the basis of the section entitled "How You Feel About School".

Details of test development for the 22-item inventory, "How You Feel About School", and the 24-item test, "Opinions About the World of Work", will be provided in a subsequent report, together with related findings pertaining to program outcomes. However, it may be reported here that test item analyses of final test data yielded reliability coefficients (Hoyt estimate of reliability) for the former instrument of .89 (collegiate population), .82 (secondary school population), and .81 (vocational school population). Similar test item analyses conducted for the instrument entitled "Opinions About the World of Work" yielded reliability coefficients of .85 (collegiate population), .82 (secondary school population), and .74 (vocational school population).

With regard to the development of the section of the student questionnaire, Form B, entitled "Opinions About Your Co-operative Education Program", it may be noted that an initial draft was field tested with a small number of students at each of the collegiate, secondary, and vocational school levels. Based on this initial field testing, which was carried out by members of the sub-committee, questions were modified as required. The revised instrument was field tested again with two additional secondary school students. The finalized instrument was analyzed using the Fry Readability Formula which estimated this section of the questionnaire to be at a Grade 7

reading level. During field testing, the reading level appeared to be suitable for collegiate and secondary school students; however, it proved necessary to read the questions to vocational school students.

Teacher Questionnaire (Appendix B)

Teacher Perceptions of Scarborough's Co-operative Education Program: As the name of this questionnaire implies, its purpose is to obtain co-operative education teachers' perceptions of the program. Included are questions which are designed to obtain teachers' opinions and/or documenting information about program goals, scheduling, supervision of students, role of central office staff, program publicity, selection of students, selection of training stations, program outcomes, reasons for involvement in the program, and attitude of other school staff toward the program.

While the teacher questionnaire is comprised primarily of structured questions, a number of open-ended questions are also included. Due to stringent time lines, field testing of this questionnaire was limited (N=3).

Employer Questionnaire (Appendix C)

Employer Perceptions of the Scarborough Co-operative Education Program: This questionnaire is designed to obtain employers' opinions about selection of students, scheduling, communication between themselves and the schools, and impressions of students at the start of training. Employers are also asked to indicate their reasons for initially becoming involved in the program, the extent to which their expectations have been met or unexpected benefits have been derived, any problems that they have experienced, and whether or not they plan to continue their involvement in the program.

Similar to the teacher questionnaire, the employer questionnaire contains a mixture of structured and open-ended questions, although considerably more of the former. Pilot testing of the questionnaire, which was conducted by sub-committee members, included four employers and was conducted on an individual test administration basis. In addition to pointing out the need for minor revisions, the results of pilot testing raised some concerns about the length of the questionnaire. (One of the the four employers included in pilot testing raised this issue.) However, after some debate, a decision was made to proceed with a slightly modified version of the original questionnaire.

A covering letter explaining the purpose of the survey accompanied all employer questionnaires. A sample of this letter is also included in Appendix C.

Parent Questionnaire (Appendix D)

Parent Perceptions of the Scarborough Co-operative Education Program: This questionnaire is designed to obtain parents' opinions about program goals, about the type of program information they would like to receive, and about program outcomes. Documenting information is also requested regarding sources from which parents learned about the program, type of program information currently being provided to parents, and extent to which parents are being adequately informed about their son's/daughter's progress. In addition, in order to assess influences of parental background on program selection, parents are asked to indicate their occupation and previous experience, if any, with co-operative education programs.

This questionnaire is composed primarily of structured questions, but open-ended questions are also included. Limited pilot testing (N=4) was conducted by members of the sub-committee by having questionnaires delivered and returned by students. Questionnaires were revised as needed on the basis of pilot test findings.

A sample of the covering letter which accompanied all parent questionnaires is also included in Appendix D.

Union Interview Schedule (Appendix E)

The union interview schedule is designed primarily to document the extent to which the officials of union locals support the co-operative education concept and the extent to which they would be willing to become actively involved in the program. While there are a number of questions which request answers in one of three categories, "YES", "NO", or "DON'T KNOW", most questions are open-ended. Details about the development of this instrument, along with interview findings, will be provided in a subsequent report.

Student Attendance Information: Record Sheets (Appendix F)

Two record sheets were used to obtain information about the attendance of the control group of students (Form A) and the co-operative education students (Form B). The former record sheet requires information to be supplied about students' attendance for each month between September, 1980, and January, 1981, inclusive, and for each month between September, 1981, and January, 1982, inclusive. Form B requires a count of co-operative education students' absences from their training stations and from school between the start date of their program and January 29, 1982. Monthly attendance for each month between September, 1980, and January, 1981, inclusive, is also requested.

Samples of letters of explanation and instruction which accompanied these record sheets are also provided in Appendix F.

Methods of Data Collection

Student Questionnaires

All questionnaires for collegiate students were delivered to the schools for administration on " CEDSS Day", February 8, 1982, or on the following day. Instructions regarding the distribution, administration, and return of the questionnaires were sent to the appropriate school principals. (See Appendix G for a copy of these instructions). In order to help ensure confidentiality, all students were provided with an envelope in which to seal questionnaires before submitting them for return.

While a similar procedure was followed for the distribution of the majority of secondary school student questionnaires, a small number of secondary school students (N=29) on the population lists were known, prior to the distribution of questionnaires, to have recently graduated. Questionnaires for these students were delivered by Canada Post. The letter which accompanied student questionnaires delivered by mail is shown in Appendix H.

Questionnaires for vocational school students were administered in mid-February by a member of the sub-committee with vocational school teaching experience. Questions were read to students, and explanations, as unbiased as possible, were provided where required.

Teacher Questionnaires

Questionnaires for teachers were administered on a group basis. All co-operative education teachers were invited to attend a meeting held at W.A.

Porter Collegiate Institute on January 19, 1982. At that time, in addition to questionnaire administration, the purposes of the study were outlined to teachers. Questionnaires for teachers who were not in attendance at that meeting were sent through inter-office mail with an accompanying letter of explanation (Appendix I).

Employer and Parent Questionnaires

Employer and parent questionnaires were sent by Canada Post in March, 1982. Due to time limitations, no follow-up, by telephone or otherwise, was carried out.

Student Attendance Information Record Sheets

Principals of all collegiate students (except re-entry students) whose co-operative education programs began on or after January 25, 1982, were requested to have their attendance secretaries complete Form A of the record sheets. Co-operative education teachers of all collegiate students (except re-entry) who began their participation in the co-operative education program between September 8, 1981, and December 22, 1981 were requested to complete Form B. Principals of these teachers were asked to have their attendance secretaries assist in this task. It may be noted that, because Form B requested, among other data, a report of training station absences, this part of the form could be completed only by co-operative education teachers.

Methods of Data Analysis[1]

Upon return of questionnaires, additional coding, as required, was carried out, and questionnaires were screened for possible problems.

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[1]Since the results of information obtained from interviews and record searches will be presented in a separate report, descriptions of methods of data analysis are limited to questionnaire data.

Keypunching of the data was performed directly from questionnaires. Statistical analysis of responses to structured questions was carried out by computer using the Statistical Package for the Social Sciences (1975).

The exact methods of data analysis and specific breakdowns of populations varied widely depending on the particular nature of each question. For the convenience of the reader, the specific methods of data analysis are provided in the appropriate sections of this report. However, a few general comments about each set of questionnaire results are provided below.

Student Questionnaire Results

Except for the reporting of return rates and results pertaining to selection of students, only data obtained from the defined co-operative education student population are reported. As indicated previously, data pertaining to outcomes, which will include comparisons of the control group of students and co-operative education students, will be presented in a subsequent report.

In analyzing results between types of schools, comparisons were limited to business education and technical education programs because almost all secondary and vocational school students were enrolled in one of these two programs.

Finally, it should be noted that, prior to the start of data analysis, students in the co-operative education population who had indicated that their programs began in January, 1982, or later (N=8) were excluded from the sample.

Teacher Questionnaire Results

Since the co-operative education teacher population had been identified as all teachers who were operating, or who in an upcoming semester would be operating, a co-operative education program, three distinct subgroups of teachers could be identified:

a) teachers who were actively involved in the program between September 8, and December 22, 1981,

b) teachers who were not actively involved in the program between September 8, and December 22, 1981, but who had had experience in the program in a previous year, and

(c) teachers whose programs had not yet begun and who had no previous experience in the program.

The reader should be aware that, although in most instances data analysis included all teacher data, for certain questions, data obtained from only specified subgroups were analyzed.

Employer Questionnaire Results

Initial screening of employer data was carried out to ensure that all employers included in the sample had had at least one student working in their organization during the year[1]. Subsequent data analyses included the total sample, except in the case where it was deemed appropriate to exclude Scarborough Board of Education staff, or, in other instances, employers who were not directly responsible for supervising students.

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[1]This screening resulted in the exclusion of one respondent from the employer sample.

Parent Questionnaire Results

Except for an analysis of parents' perceptions of the importance of program goals, no breakdown of the parent population was carried out.

Open-Ended Questions

Answers to open-ended questions on all questionnaires were tabulated manually. Two points about tabulation of open-ended responses should be noted. First, open-ended responses for each question were initially categorized and then the number of "reports" for each category was determined. Therefore, the numbers reported are not additive. (One individual whose responses fit into two categories would constitute two reports on a summary table.) Second, responses were omitted if they were unclear, if they did not pertain more or less directly to the question being asked, or, in the case of requests for additional information about a topic, if they reiterated information obtained through structured questions.

Responses to the open-ended "comments" section provided at the end of all questionnaires were also tabulated as described above and are presented in Appendix J.

APPENDIX B

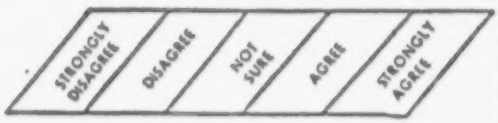
"How You Feel About School" and "Opinions About the World of Work" Inventories

How You Feel About School

In this section, we are interested in finding out how you feel about school. Please circle the number which shows to what extent you agree or disagree with each of the statements listed below.

Circle 1 if you STRONGLY DISAGREE with the statement.
Circle 2 if you DISAGREE with the statement.
Circle 3 if you are NOT SURE about the statement.
Circle 4 if you AGREE with the statement.
Circle 5 if you STRONGLY AGREE with the statement.

Please keep in mind that this is not a test. There are no right or wrong answers to these questions. The important thing is to give the answer that is right for you.



1.	I don't care what mark I get on my school work.	1	2	3	4	5	[35]
2.	Learning new things is not very much fun.	1	2	3	4	5	[36]
3.	I generally look forward to coming to school each day.	1	2	3	4	5	[37]
4.	I am wasting my time at this school.	1	2	3	4	5	[38]
5.	It is clear to me why I shouldn't drop out of school. . . .	1	2	3	4	5	[39]
6.	I do my best in school because I can get ahead in the world with a good education.	1	2	3	4	5	[40]
7.	I hate having to do my homework.	1	2	3	4	5	[41]
8.	What I learn at school will be useful to me later on.	1	2	3	4	5	[42]
9.	I like the challenge of a difficult assignment.	1	2	3	4	5	[43]
10.	School is important to me because I find many of the things I learn in school are useful outside of school.	1	2	3	4	5	[44]

	STRONGLY DISAGREE	DISAGREE	NOT SURE	AGREE	STRONGLY AGREE	
11. Most of my classes in this school are boring.	1	2	3	4	5	[45]
12. School is just a place to keep kids off the street.	1	2	3	4	5	[46]
13. Almost everything I learn in school is dull.	1	2	3	4	5	[47]
14. The main reason I come to school is to learn.	1	2	3	4	5	[48]
15. If I had the choice, I wouldn't go to school at all.	1	2	3	4	5	[49]
16. I like to do my homework.	1	2	3	4	5	[50]
17. School is exciting.	1	2	3	4	5	[51]
18. I have discovered things on my own that were related to some of my school subjects.	1	2	3	4	5	[52]
19. I don't like having to go to school.	1	2	3	4	5	[53]
20. Most school days seem like they will never end.	1	2	3	4	5	[54]
21. My favourite classes, regardless of subject, are those in which I learn the most.	1	2	3	4	5	[55]
22. This school is really helping me to be what I want to be.	1	2	3	4	5	[56]

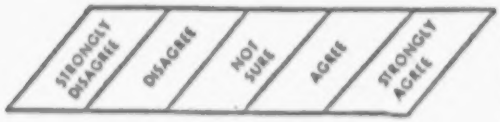
Opinions About the World of Work

In this section, we are interested in finding out your opinions about the world of work. The statements below describe situations that could apply to many different types of jobs. Thinking about most jobs, circle the number which shows the extent to which you agree or disagree with each statement.

Circle 1 if you STRONGLY DISAGREE with the statement.
Circle 2 if you DISAGREE with the statement.
Circle 3 if you are NOT SURE about the statement.
Circle 4 if you AGREE with the statement.
Circle 5 if you STRONGLY AGREE with the statement.

	STRONGLY DISAGREE	DISAGREE	NOT SURE	AGREE	STRONGLY AGREE	
1. Arriving at work on time is very important.	1	2	3	4	5	[57]
2. If you are behind in your work, it doesn't really matter as long as the job gets done at some time.	1	2	3	4	5	[58]
3. At most jobs, there is a proper way to be dressed.	1	2	3	4	5	[59]
4. If you are sick and unable to report to work, you should let your supervisor know as soon as possible.	1	2	3	4	5	[60]
5. If you tell a customer that you will have materials ready for a certain day, being one or two days late will not make a big difference.	1	2	3	4	5	[61]
6. If you have an important deadline to meet, it doesn't matter how good or bad your work is as long as you meet the deadline.	1	2	3	4	5	[62]
7. You should try to solve a problem by yourself before asking your supervisor for help.	1	2	3	4	5	[63]

	STRONGLY DISAGREE	DISAGREE	NOT SURE	AGREE	STRONGLY AGREE	
8. Most employers want to see the work get done as quickly as possible.	1	2	3	4	5	[64]
9. If you do not like a customer, you should do your best to keep from letting him/her know it.	1	2	3	4	5	[65]
10. You are not likely to learn much from other employees who are doing the same job as yourself.	1	2	3	4	5	[66]
11. It is important to be friendly to others at work.	1	2	3	4	5	[67]
12. Customers expect your work to be of very good quality. . .	1	2	3	4	5	[68]
13. If you are feeling tired because you went to bed late, it's all right to miss a day of work.	1	2	3	4	5	[69]
14. If you have finished all your tasks, you should check to see if there is other work that needs to be done.	1	2	3	4	5	[70]
15. If customers do something wrong, you should let them know how angry you are. . .	1	2	3	4	5	[71]
16. You should try to arrange for any doctor's appointments to be after work.	1	2	3	4	5	[72]
17. If you are unable to solve a problem at work on your own, the best solution is to try to forget it.	1	2	3	4	5	[73]
18. People generally don't mind if you are ten minutes late for an appointment.	1	2	3	4	5	[74]



19.	The way you get along with other people is a very important part of most jobs.	1	2	3	4	5	[75]
20.	If your supervisor is not the person who pays your salary, he/she will not care how often you are absent from work.	1	2	3	4	5	[76]
21.	If you discover that you have given someone the wrong information, you should let that person know as soon as possible.	1	2	3	4	5	[77]
22.	Employers don't really expect rules at work to be followed.	1	2	3	4	5	[78]
23.	If you are rude to customers, they probably won't come back.	1	2	3	4	5	[79]
24.	A supervisor is there not only to make sure that you are doing your job properly but also to give you help when you need it.	1	2	3	4	5	[80]

APPENDIX C

Summary of Statistical Analyses
Performed on Student Perceptions
of Outcomes Data

TABLE C-1

STUDENT RETENTION THROUGH THE CO-OPERATIVE EDUCATION PROGRAM: A COMPARISON OF BUSINESS AND TECHNICAL EDUCATION STUDENT SELF-REPORT FINDINGS IN THREE TYPES OF SCHOOLS

Item	Mean Rating (5-point scale[a])		
	Collegiate Institute (N=162)	Secondary School (N=72)	Vocational School (N=23)
I had considered dropping out of school but decided to stay because of the co-operative education program.	2.18[b]	2.22[b]	2.77[b]

[a] 1 = Strongly disagree
2 = Disagree
3 = Not sure
4 = Agree
5 = Strongly agree

[b] One-way analysis of variance indicated no signficant difference between means for this item (p>.05).

TABLE C-2

STUDENT RETENTION THROUGH THE CO-OPERATIVE EDUCATION PROGRAM: A COMPARISON OF STUDENT SELF-REPORT FINDINGS IN FOUR TYPES OF COLLEGIATE PROGRAMS

Item	Mean Rating (5-point scale[a])			
	Business Education (N=108)	Technical Education (N=54)	Academic (N=20)	Community Involvement (N=80)
I had considered dropping out of school but decided to stay because of the co-operative education program.	2.00[b]	2.48[b]	1.93[b]	2.46[b]

[a] 1 = Strongly disagree
2 = Disagree
3 = Not sure
4 = Agree
5 = Strongly agree

[b] One-way analysis of variance indicated no significant difference between means for this item (p>.05).

TABLE C-3

STUDENTS' PERCEPTIONS OF PROGRAM OUTCOMES:
A COMPARISON OF BUSINESS AND TECHNICAL EDUCATION STUDENTS IN THREE TYPES OF SCHOOLS
(N=290)

Item	Mean Rating (5-point scale[a])		
	Collegiate Institute (N=162)	Secondary School (N=72)	Vocational School (N=23)
Positive Statements:			
My co-operative education experience has given me a very good idea of what a full-time job would be like.	4.42*	4.31*	4.73*
I have more confidence now because of my experience in the co-operative education program.	4.07	3.89	4.28
My co-operative education experience has helped me to understand how to succeed at work.	3.96*	4.00*	4.41*
The job contacts I have made during my co-operative education program have put me in a better position to get a full-time job.	3.87*	3.78*	4.36*
My experience in the co-operative education program has taught me how to get along better with others.	3.84*	3.70*	4.28*
My co-operative education experience has given me the opportunity to improve the skills I have learned in school.	3.91	4.03	4.04
Being in the co-operative education program has made my school subjects seem more relevant.	3.38***	3.80***	4.14***
The things I have learned at my training station have helped me to better understand my school work.	3.29	3.32	3.77

TABLE C-3 (Continued)

Item	Mean Rating (5-point scale[a])		
	Collegiate Institute (N=162)	Secondary School (N=72)	Vocational School (N=23)
Negative Statements:			
The tasks and duties which were assigned to me at my training station were boring.	2.30	2.62	2.32
At my training station, I have been unable to use anything that I learned at school.	2.26**	2.28**	3.19**
There is no relationship between what I have learned at my training station and what I learn at school.	2.35	2.29	2.55
Since I started in the co-operative education program I have found school more boring.	2.79	2.66	2.45
I have learned few new skills at my training station.	2.81*	3.21*	3.41*

[a] 1 = Strongly disagree
2 = Disagree
3 = Not sure
4 = Agree
5 = Strongly agree

*One-way analysis of variance indicated a significant difference between means for this item ($p < .05$).
**One-way analysis of variance indicated a significant difference between means for this item ($p < .01$).
***One-way analysis of variance indicated a significant difference between means for this item ($p < .001$).

TABLE C-4

STUDENTS' PERCEPTIONS OF PROGRAM OUTCOMES:
A COMPARISON OF STUDENTS IN FIVE TYPES OF COLLEGIATE PROGRAMS
(N=290)

Item	Mean Rating (5-point scale[a])				
	Business Education (N=108)	Technical Education (N=54)	Academic (N=20)	Re-Entry (N=28)	Community Involvement (N=80)
Positive Statements:					
My co-operative education experience has given me a very good idea of what a full-time job would be like.	4.53**	4.20**	3.59**	3.96**	4.31**
I have more confidence now because of my experience in the co-operative education program.	4.12	3.98	3.84	4.09	4.24
My co-operative education experience has helped me to understand how to succeed at work.	4.00	3.89	3.81	3.58	3.91
The job contacts I have made during my co-operative education program have put me in a better position to get a full-time job.	3.89	3.84	3.38	3.76	3.77
My experience in the co-operative education program has taught me how to get along better with others.	3.98**	3.53**	3.94**	3.24**	3.96**
My co-operative education experience has given me the opportunity to improve the skills I have learned in school.	3.84*	4.06*	3.71*	3.48*	3.32*
Being in the co-operative education program has made my school subjects seem more relevant.	3.56*	3.02*	3.21*	3.64*	3.52*
The things I have learned at my training station have helped me to better understand my school work.	3.31	3.26	3.19	3.52	3.14

TABLE C-4 (Continued)

Item	Mean Rating (5-point scale[a])				
	Business Education (N=108)	Technical Education (N=54)	Academic (N=20)	Re-Entry (N=28)	Community Involvement (N=80)
Negative Statements:					
The tasks and duties which were assigned to me at my training station were boring.	2.34	2.25	2.11	2.54	2.07
At my training station, I have been unable to use anything that I learned at school.	2.19*	2.41*	1.89*	2.58*	2.72*
There is no relationship between what I have learned at my training station and what I learn at school.	2.45**	2.12**	2.11**	2.23**	2.96**
Since I started in the co-operative education I have found school more boring.	2.82	2.74	2.58	2.24	2.46
I have learned few new skills at my training station.	2.84	2.74	2.67	2.85	2.66

[a] 1 = Strongly disagree
2 = Disagree
3 = Not sure
4 = Agree
5 = Strongly agree

*One-way analysis of variance indicated a significant difference between means for this item ($p < .01$).

**One-way analysis of variance indicated a significant difference between means for this item ($p < .001$).

APPENDIX D

Students' Perceptions of

Outcomes by Group

1. Secondary School Students: Tables D-1 to D-4
2. Vocational School Students: Tables D-5 to D-8
3. Collegiate Business Education Students: Tables D-9 to D-12
4. Collegiate Technical Education Students: Tables D-13 to D-16
5. Collegiate Academic Students: Tables D-17 to D-19
6. Collegiate Re-entry Students: Tables D-20 to D-21
7. Collegiate Community Involvement Students: Tables D-22 to D-24

TABLE D-1

STUDENT RETENTION THROUGH THE CO-OPERATIVE EDUCATION PROGRAM:
SECONDARY SCHOOL STUDENTS' SELF-REPORT FINDINGS
(N=72)

Item	Mean Rating		Number (N) and Percentage (P) of Students per Response Category[a] 1	2	3	4	5	NA/NR
I had considered dropping out of school but decided to stay because of the co-operative education program.	2.22	(N)	23	19	5	5	7	13
		(P)	32	26	7	7	10	18

[a]1 = Strongly disagree
2 = Disagree
3 = Not sure
4 = Agree
5 = Strongly agree
NA/NR = Not applicable or no response

TABLE D-2

OPPORTUNITIES TO WORK ON MODERN EQUIPMENT:
PERCEPTIONS OF SECONDARY SCHOOL STUDENTS:
(N=72)

Item	Mean Rating		Number (N) and Percentage (P) of Students per Response Category[a] 1	2	3	4	5	NA/NR
I had the opportunity to work on more modern equipment at my training station than is available in school.	3.12	(N)	10	19	8	13	17	5
		(P)	14	26	11	18	24	7

[a]1 = Strongly disagree
2 = Disagree
3 = Not sure
4 = Agree
5 = Strongly agree
NA/NR = Not applicable or no response

TABLE D-3

SECONDARY SCHOOL STUDENTS' PERCEPTIONS OF PROGRAM OUTCOMES: RESPONSES TO A LIST OF STRUCTURED QUESTIONS (N=72)

Item	Mean Rating	Number (N) and Percentage (P) of Respondents per Response Category[a] 1	2	3	4	5	NA/NR
Positive Statements:							
My co-operative education experience has given me a very good idea of what a full-time job would be like.	4.33	(N) 0	5	5	22	38	2
		(P) 0	7	7	31	53	3
I have more confidence now because of my experience in the co-operative education program.	3.93	(N) 2	7	12	22	27	2
		(P) 3	10	17	31	38	3
My co-operative education experience has helped me to understand how to succeed at work.	4.00	(N) 2	4	8	33	22	3
		(P) 3	6	11	46	31	4
The job contacts I have made during my co-operative education program have put me in a better position to get a full-time job.	3.80	(N) 7	4	9	25	24	3
		(P) 10	6	13	35	33	4
My experience in the co-operative education program has taught me how to get along better with others.	3.71	(N) 2	7	14	31	14	4
		(P) 3	10	19	43	19	6
My co-operative education experience has given me the opportunity to improve the skills I have learned in school.	4.06	(N) 3	5	8	21	31	4
		(P) 4	7	11	29	43	6
Being in the co-operative education program has made my school subjects seem more relevant.	3.81	(N) 2	4	15	30	16	5
		(P) 3	6	21	42	22	7
The things I have learned at my training station have helped me to better understand my school work.	3.34	(N) 7	9	13	30	8	5
		(P) 10	13	18	42	11	7

TABLE D-3 (Continued)

Item	Mean Rating		Number (N) and Percentage (P) of Respondents per Response Category[a] 1	2	3	4	5	NA/NR
Negative Statements:								
The tasks and duties which were assigned to me at my training station were boring.	2.59	(N)	16	28	5	11	10	2
		(P)	22	39	7	15	14	3
At my training station, I have been unable to use anything that I learned at school.	2.24	(N)	20	30	9	5	6	2
		(P)	28	42	13	7	8	3
There is no relation between what I have learned at my training station and what I learn at school.	2.26	(N)	19	30	9	5	6	3
		(P)	26	42	13	7	8	4
Since I started in the co-operative education program I have found school more boring.	2.62	(N)	12	27	9	8	9	7
		(P)	17	38	13	11	13	10
I have learned few new skills at my training station.	3.24	(N)	11	15	4	26	14	2
		(P)	15	21	6	36	19	3

[a]1 = Strongly disagree
2 = Disagree
3 = Not sure
4 = Agree
5 = Strongly agree
NA/NR = Not applicable or no response

TABLE D-4

EFFECT OF PROGRAM ON SECONDARY SCHOOL STUDENTS' DECISION MAKING

Student Group	No.	%
All Secondary School Students (N=72)		
My co-operative education experience has made me see the need to continue my schooling.	44[a]	61[a]
My co-operative education experience has made me decide to enter the work force earlier than I had originally planned.	23[a]	32[a]
Students Who Had Decided on a Career Before Taking Part in the Program (N=54)		
My co-operative education experience has made me sure of my decision.	36	67
I have changed my plans and have decided on a different type of job in the same field.	4	7
I have changed my plans and have decided on a completely different career.	5	9
I am now more confused about the kind of work I want to do.	4	7
My co-operative education experience has had no influence on my career decision.	5	9
No response	0	0
Students Who Had Not Decided on a Career Before Taking part in the Program (N=11)		
My co-operative education experience has given me a better idea of the kind of work I would like to do.	6[b]	55[b]
My co-operative education experience has given me a better idea of the kind of work I do not want to do.	2[b]	18[b]
I am still unsure as to the type of work I would like to do.	3[b]	27[b]

[a]Represents the number or percentage of students agreeing with the statement.

[b]These figures are not additive. Students were instructed to check any of the three statement that applied.

TABLE D-5

STUDENT RETENTION THROUGH THE CO-OPERATIVE EDUCATION PROGRAM:
VOCATIONAL SCHOOL STUDENTS' SELF-REPORT FINDINGS
(N=23)

Item	Mean Rating		Number (N) and Percentage (P) of Students per Response Category[a] 1	2	3	4	5	NA/NR
I had considered dropping out of school but decided to stay because of the co-operative education program.	2.77	(N)	5	8	0	5	4	1
		(P)	22	35	0	22	17	4

[a]1 = Strongly disagree
2 = Disagree
3 = Not sure
4 = Agree
5 = Strongly agree
NA/NR = Not applicable or no response

TABLE D-6

OPPORTUNITIES TO WORK ON MODERN EQUIPMENT:
PERCEPTIONS OF VOCATIONAL SCHOOL
(N=23)

Item	Mean Rating		Number (N) and Percentage (P) of Students per Response Category[a] 1	2	3	4	5	NA/NR
I had the opportunity to work on more modern equipment at my training station than is available in school.	3.81	(N)	1	2	4	7	7	2
		(P)	4	9	17	30	30	9

[a]1 = Strongly disagree
2 = Disagree
3 = Not sure
4 = Agree
5 = Strongly agree
NA/NR = Not applicable or no response

TABLE D-7

VOCATIONAL SCHOOL STUDENTS' PERCEPTIONS OF PROGRAM OUTCOMES: RESPONSES TO A LIST OF STRUCTURED QUESTIONS (N=23)

Item	Mean Rating	Number (N) and Percentage (P) of Respondents per Response Category[a] 1	2	3	4	5	NA/NR
Positive Statements:							
My co-operative education experience has given me a very good idea of what a full-time job would be like.	4.73	(N) 0	0	0	6	16	1
		(P) 0	0	0	26	70	4
I have more confidence now because of my experience in the co-operative education program.	4.29	(N) 0	1	2	8	10	2
		(P) 0	4	9	35	44	9
My co-operative education experience has helped me to understand how to succeed at work.	4.41	(N) 1	0	1	7	13	1
		(P) 4	0	4	30	57	4
The job contacts I have made during my co-operative education program have put me in a better position to get a full-time job.	4.36	(N) 0	1	2	7	12	1
		(P) 0	4	9	30	52	4
My experience in the co-operative education program has taught me how to get along better with others.	4.27	(N) 1	0	0	12	9	1
		(P) 4	0	0	52	39	4
My co-operative education experience has given me the opportunity to improve the skills I have learned in school.	4.05	(N) 1	1	2	9	8	2
		(P) 4	4	9	39	35	9
Being in the co-operative education program has made my school subjects seem more relevant.	4.14	(N) 1	0	3	9	9	1
		(P) 4	0	13	39	39	4
The things I have learned at my training station have helped me to better understand my school work.	3.77	(N) 0	4	2	11	5	1
		(P) 0	17	9	48	22	4

TABLE D-7 (Continued)

Item	Mean Rating		Number (N) and Percentage (P) of Respondents per Response Category[a] 1	2	3	4	5	NA/NR
Negative Statements:								
The tasks and duties which were assigned to me at my training station were boring.	2.32	(N)	7	7	3	4	1	1
		(P)	30	30	13	17	4	4
At my training station, I have been unable to use anything that I learned at school.	3.18	(N)	4	6	1	4	7	1
		(P)	17	26	4	17	30	4
There is no relationship between what I have learned at my training station and what I learn at school.	2.56	(N)	6	6	4	4	2	1
		(P)	26	26	17	17	9	4
Since I started in the co-operative education program I have found school more boring.	2.46	(N)	6	5	7	3	1	1
		(P)	26	22	30	13	4	4
I have learned few new skills at my training station.	3.41	(N)	4	4	1	5	8	1
		(P)	17	17	4	22	35	4

[a]1 = Strongly disagree
2 = Disagree
3 = Not sure
4 = Agree
5 = Strongly agree
NA/NR = Not applicable or no response

TABLE D-8

EFFECT OF PROGRAM ON VOCATIONAL SCHOOL STUDENTS' DECISION MAKING

Student Group	No.	%
All Vocational School Students (N=23)		
My co-operative education experience has made me see the need to continue my schooling.	19[a]	83[a]
My co-operative education experience has made me decide to enter the work force earlier than I had originally planned.	10[a]	43[a]
Students Who Had Decided on a Career Before Taking Part in the Program (N=17)		
My co-operative education experience has made me sure of my decision.	9	53
I have changed my plans and have decided on a different type of job in the same field.	1	6
I have changed my plans and have decided on a completely different career.	3	18
I am now more confused about the kind of work I want to do.	0	0
My co-operative education experience has had no influence on my career decision.	2	12
No response	2	12
Students Who Had Not Decided on a Career Before Taking part in the Program (N=5)		
My co-operative education experience has given me a better idea of the kind of work I would like to do.	3[b]	60[b]
My co-operative education experience has given me a better idea of the kind of work I do not want to do.	0[b]	0[b]
I am still unsure as to the type of work I would like to do.	2[b]	40[b]

[a]Represents the number or percentage of students agreeing with the statement.

[b]These figures are not additive. Students were instructed to check any of the three statement that applied.

TABLE D-9

STUDENT RETENTION THROUGH THE CO-OPERATIVE EDUCATION PROGRAM:
COLLEGIATE BUSINESS EDUCATION STUDENTS' SELF-REPORT FINDINGS
(N=108)

Item	Mean Rating		Number (N) and Percentage (P) of Students per Response Category[a] 1	2	3	4	5	NA/NR
I had considered dropping out of school but decided to stay because of the co-operative education program.	2.00	(N)	34	36	7	3	7	21
		(P)	32	33	7	3	7	19

[a]1 = Strongly disagree
2 = Disagree
3 = Not sure
4 = Agree
5 = Strongly agree
NA/NR = Not applicable or no response

TABLE D-10

OPPORTUNITIES TO WORK ON MODERN EQUIPMENT:
PERCEPTIONS OF COLLEGIATE BUSINESS EDUCATION STUDENTS
(N=108)

Item	Mean Rating		Number (N) and Percentage (P) of Students per Response Category[a] 1	2	3	4	5	NA/NR
I had the opportunity to work on more modern equipment at my training station than is available in school.	3.37	(N)	11	20	12	29	24	12
		(P)	10	19	11	27	22	11

[a]1 = Strongly disagree
2 = Disagree
3 = Not sure
4 = Agree
5 = Strongly agree
NA/NR = Not applicable or no response

TABLE D-11

COLLEGIATE BUSINESS EDUCATION STUDENTS' PERCEPTIONS OF PROGRAM OUTCOMES: RESPONSES TO A LIST OF STRUCTURED QUESTIONS (N=108)

Item	Mean Rating	Number (N) and Percentage (P) of Respondents per Response Category[a] 1	2	3	4	5	NA/NR
Positive Statements:							
My co-operative education experience has given me a very good idea of what a full-time job would be like.	4.53	(N) 0	2	5	35	66	0
		(P) 0	2	5	32	61	0
I have more confidence now because of my experience in the co-operative education program.	4.12	(N) 0	6	8	61	33	0
		(P) 0	6	7	57	31	0
My co-operative education experience has helped me to understand how to succeed at work.	4.00	(N) 0	2	15	72	19	0
		(P) 0	2	14	67	18	0
The job contacts I have made during my co-operative education program have put me in a better position to get a full-time job.	3.89	(N) 3	4	27	41	32	1
		(P) 3	4	25	38	30	1
My experience in the co-operative education program has taught me how to get along better with others.	3.98	(N) 1	6	11	65	24	1
		(P) 1	6	10	60	22	1
My co-operative education experience has given me the opportunity to improve the skills I have learned in school.	3.84	(N) 3	7	15	60	21	2
		(P) 3	7	14	56	19	2
Being in the co-operative education program has made my school subjects seem more relevant.	3.56	(N) 2	10	33	50	12	1
		(P) 2	9	31	46	11	1
The things I have learned at my training station have helped me to better understand my school work.	3.31	(N) 1	19	40	37	8	3
		(P) 1	18	37	34	7	3

TABLE D-11 (Continued)

Item	Mean Rating		Number (N) and Percentage (P) of Respondents per Response Category[a] 1	2	3	4	5	NA/NR
Negative Statements:								
The tasks and duties which were assigned to me at my training station were boring.	2.34	(N)	21	53	15	12	6	1
		(P)	19	49	14	11	6	1
At my training station, I have been unable to use anything that I learned at school.	2.19	(N)	22	59	15	9	3	0
		(P)	20	55	14	8	3	0
There is no relationship between what I have learned at my training station and what I learn at school.	2.45	(N)	14	55	22	10	7	0
		(P)	13	51	20	9	7	0
Since I started in the co-operative education program I have found school more boring.	2.82	(N)	12	40	20	27	9	0
		(P)	11	37	19	25	8	0
I have learned few new skills at my training station.	2.84	(N)	17	43	4	28	16	0
		(P)	16	40	4	26	15	0

[a]1 = Strongly disagree
2 = Disagree
3 = Not sure
4 = Agree
5 = Strongly agree
NA/NR = Not applicable or no response

TABLE D-12

EFFECT OF PROGRAM ON COLLEGIATE BUSINESS EDUCATION STUDENTS' DECISION MAKING

Student Group	No.	%
All Collegiate Business Education Students (N=108)		
My co-operative education experience has made me see the need to continue my schooling.	53[a]	49[a]
My co-operative education experience has made me decide to enter the work force earlier than I had originally planned.	32[a]	30[a]
Students Who Had Decided on a Career Before Taking Part in the Program (N=81)		
My co-operative education experience has made me sure of my decision.	42	52
I have changed my plans and have decided on a different type of job in the same field.	15	19
I have changed my plans and have decided on a completely different career.	5	6
I am now more confused about the kind of work I want to do.	9	11
My co-operative education experience has had no influence on my career decision.	10	12
No response	0	0
Students Who Had Not Decided on a Career Before Taking part in the Program (N=26)		
My co-operative education experience has given me a better idea of the kind of work I would like to do.	12[b]	46[b]
My co-operative education experience has given me a better idea of the kind of work I do not want to do.	7[b]	27[b]
I am still unsure as to the type of work I would like to do.	8[b]	31[b]

[a]Represents the number or percentage of students agreeing with the statement.

[b]These figures are not additive. Students were instructed to check any of the three statement that applied.

TABLE D-13

STUDENT RETENTION THROUGH THE CO-OPERATIVE EDUCATION PROGRAM:
COLLEGIATE TECHNICAL EDUCATION STUDENTS' SELF-REPORT FINDINGS
(N=54)

Item	Mean Rating		Number (N) and Percentage (P) of Students per Response Category[a] 1	2	3	4	5	NA/NR
I had considered dropping out of school but decided to stay because of the co-operative education program.	2.48	(N)	15	18	5	7	7	2
		(P)	28	33	9	13	13	4

[a]1 = Strongly disagree
2 = Disagree
3 = Not sure
4 = Agree
5 = Strongly agree
NA/NR = Not applicable or no response

TABLE D-14

OPPORTUNITIES TO WORK ON MODERN EQUIPMENT:
PERCEPTIONS OF COLLEGIATE TECHNICAL EDUCATION STUDENTS
(N=54)

Item	Mean Rating		Number (N) and Percentage (P) of Students per Response Category[a] 1	2	3	4	5	NA/NR
I had the opportunity to work on more modern equipment at my training station than is available in school.	3.62	(N)	2	9	9	19	13	2
		(P)	4	17	17	35	24	4

[a]1 = Strongly disagree
2 = Disagree
3 = Not sure
4 = Agree
5 = Strongly agree
NA/NR = Not applicable or no response

TABLE D-15

COLLEGIATE TECHNICAL EDUCATION STUDENTS' PERCEPTIONS OF PROGRAM OUTCOMES: RESPONSES TO A LIST OF STRUCTURED QUESTIONS (N=54)

Item	Mean Rating		Number (N) and Percentage (P) of Respondents per Response Category[a] 1	2	3	4	5	NA/NR
Positive Statements:								
My co-operative education experience has given me a very good idea of what a full-time job would be like.	4.20	(N)	2	2	2	25	23	0
		(P)	4	4	4	46	43	0
I have more confidence now because of my experience in the co-operative education program.	3.98	(N)	1	0	11	29	13	0
		(P)	2	0	20	54	24	0
My co-operative education experience has helped me to understand how to succeed at work.	3.89	(N)	2	1	5	38	7	1
		(P)	4	2	9	70	13	2
The job contacts I have made during my co-operative education program have put me in a better position to get a full-time job.	3.84	(N)	1	2	14	21	13	3
		(P)	2	4	26	39	24	6
My experience in the co-operative education program has taught me how to get along better with others.	3.53	(N)	3	7	5	32	4	3
		(P)	6	13	9	59	7	6
My co-operative education experience has given me the opportunity to improve the skills I have learned in school.	4.06	(N)	0	3	5	29	14	3
		(P)	0	6	9	54	26	6
Being in the co-operative education program has made my school subjects seem more relevant.	3.02	(N)	3	11	24	12	3	1
		(P)	6	20	44	22	6	2
The things I have learned at my training station have helped me to better understand my school work.	3.26	(N)	3	8	20	13	7	3
		(P)	6	15	37	24	13	6

TABLE D-15 (Continued)

Item	Mean Rating		Number (N) and Percentage (P) of Respondents Per Response Category[a] 1	2	3	4	5	NA/NR
Negative Statements:								
The tasks and duties which were assigned to me at my training station were boring.	2.25	(N)	13	25	7	5	3	1
		(P)	24	46	13	9	6	2
At my training station, I have been unable to use anything that I learned at school.	2.41	(N)	12	21	11	7	3	0
		(P)	22	39	20	13	6	0
There is no relationship between what I have learned at my training station and what I learn at school.	2.12	(N)	13	27	7	3	2	2
		(P)	24	50	13	6	4	4
Since I started in the co-operative education program I have found school more boring.	2.74	(N)	5	24	13	2	9	1
		(P)	9	44	24	4	17	2
I have learned few new skills at my training station.	2.74	(N)	13	17	1	15	7	1
		(P)	24	32	2	28	13	2

[a]1 = Strongly disagree
2 = Disagree
3 = Not sure
4 = Agree
5 = Strongly agree
NA/NR = Not applicable or no response

TABLE D-16

EFFECT OF PROGRAM ON COLLEGIATE TECHNICAL EDUCATION STUDENTS' DECISION MAKING

Student Group	No.	%
All Collegiate Technical Education Students (N=54)		
My co-operative education experience has made me see the need to continue my schooling.	26[a]	48[a]
My co-operative education experience has made me decide to enter the work force earlier than I had originally planned.	9[a]	17[a]
Students Who Had Decided on a Career Before Taking Part in the Program (N=40)		
My co-operative education experience has made me sure of my decision.	26	65
I have changed my plans and have decided on a different type of job in the same field.	8	20
I have changed my plans and have decided on a completely different career.	2	5
I am now more confused about the kind of work I want to do.	3	8
My co-operative education experience has had no influence on my career decision.	1	3
No response	0	0
Students Who Had Not Decided on a Career Before Taking part in the Program (N=14)		
My co-operative education experience has given me a better idea of the kind of work I would like to do.	11[b]	79[b]
My co-operative education experience has given me a better idea of the kind of work I do not want to do.	2[b]	14[b]
I am still unsure as to the type of work I would like to do.	5[b]	36[b]

[a]Represents the number or percentage of students agreeing with the statement.

[b]These figures are not additive. Students were instructed to check any of the three statement that applied.

TABLE D-17

STUDENT RETENTION THROUGH THE CO-OPERATIVE EDUCATION PROGRAM:
COLLEGIATE ACADEMIC STUDENTS' SELF-REPORT FINDINGS
(N=20)

Item	Mean Rating		Number (N) and Percentage (P) of Students per Response Category[a] 1	2	3	4	5	NA/NR
I had considered dropping out of school but decided to stay because of the co-operative education program.	1.93	(N)	6	5	1	2	0	6
		(P)	30	25	5	10	0	30

[a]1 = Strongly disagree
2 = Disagree
3 = Not sure
4 = Agree
5 = Strongly agree
NA/NR = Not applicable or no response

TABLE D-18

COLLEGIATE ACADEMIC EDUCATION STUDENTS' PERCEPTIONS OF PROGRAM OUTCOMES: RESPONSES TO A LIST OF STRUCTURED QUESTIONS
(N=20)

Item	Mean Rating		Number (N) and Percentage (P) of Respondents per Response Category[a] 1	2	3	4	5	NA/NR
Positive Statements:								
My co-operative education experience has given me a very good idea of what a full-time job would be like.	3.59	(N)	2	1	4	5	5	3
		(P)	10	5	20	25	25	15
I have more confidence now because of my experience in the co-operative education program.	3.84	(N)	1	0	3	12	3	1
		(P)	5	0	15	60	15	5
My co-operative education experience has helped me to understand how to succeed at work.	3.81	(N)	1	0	2	11	2	4
		(P)	5	0	10	55	10	20
The job contacts I have made during my co-operative education program have put me in a better position to get a full-time job.	3.38	(N)	2	1	6	3	4	4
		(P)	10	5	30	15	20	20

TABLE D-18 (Continued)

Item	Mean Rating		Number (N) and Percentage (P) of Respondents per Response Category[a] 1	2	3	4	5	NA/NR
My experience in the co-operative education program has taught me how to get along better with others.	3.94	(N)	1	1	2	8	6	2
		(P)	5	5	10	40	30	10
My co-operative education experience has given me the opportunity to improve the skills I have learned in school.	3.71	(N)	1	2	1	10	3	3
		(P)	5	10	5	50	15	15
Being in the co-operative education program has made my school subjects seem more relevant.	3.21	(N)	2	2	7	6	2	1
		(P)	10	10	35	30	10	5
The things I have learned at my training station have helped me to better understand my school work.	3.19	(N)	1	2	6	7	0	4
		(P)	5	10	30	35	0	20
Negative Statements:								
The tasks and duties which were assigned to me at my training station were boring.	2.11	(N)	4	11	2	2	0	1
		(P)	20	55	10	10	0	5
At my training station, I have been unable to use anything that I learned at school.	1.89	(N)	7	9	0	1	1	2
		(P)	35	45	0	5	5	10
There is no relationship between what I have learned at my training station and what I learn at school.	2.11	(N)	6	9	1	2	1	1
		(P)	30	45	5	10	5	5
Since I started in the co-operative education program I have found school more boring.	2.58	(N)	3	8	2	6	0	1
		(P)	15	40	10	30	0	5
I have learned few new skills at my training station.	2.67	(N)	2	9	3	1	3	2
		(P)	10	45	15	5	15	10

[a]1 = Strongly disagree
2 = Disagree
3 = Not sure
4 = Agree
5 = Strongly agree
NA/NR = Not applicable or no response

TABLE D-19

EFFECT OF PROGRAM ON COLLEGIATE ACADEMIC STUDENTS' DECISION MAKING

Student Group	No.	%
All Collegiate academic Students (N=20)		
My co-operative education experience has made me see the need to continue my schooling.	6[a]	30[a]
My co-operative education experience has made me decide to enter the work force earlier than I had originally planned.	3[a]	15[a]
Students Who Had Decided on a Career Before Taking Part in the Program (N=12)		
My co-operative education experience has made me sure of my decision.	2	17
I have changed my plans and have decided on a different type of job in the same field.	1	8
I have changed my plans and have decided on a completely different career.	2	17
I am now more confused about the kind of work I want to do.	0	0
My co-operative education experience has had no influence on my career decision.	7	58
No response	0	0
Students Who Had Not Decided on a Career Before Taking part in the Program (N=7)		
My co-operative education experience has given me a better idea of the kind of work I would like to do.	3[b]	43[b]
My co-operative education experience has given me a better idea of the kind of work I do not want to do.	1[b]	14[b]
I am still unsure as to the type of work I would like to do.	5[b]	71[b]

[a]Represents the number or percentage of students agreeing with the statement.

[b]These figures are not additive. Students were instructed to check any of the three statement that applied.

TABLE D-20

RE-ENTRY STUDENTS' PERCEPTIONS OF PROGRAM OUTCOMES:
RESPONSES TO A LIST OF STRUCTURED QUESTIONS
(N=28)

Item	Mean Rating	Number (N) and Percentage (P) of Respondents per Response Category[a] 1	2	3	4	5	NA/NR
Positive Statements:							
My co-operative education experience has given me a very good idea of what a full-time job would be like.	3.96	(N) 1	2	2	11	8	4
		(P) 4	7	7	39	29	14
I have more confidence now because of my experience in the co-operative education program.	4.09	(N) 1	0	5	9	10	3
		(P) 4	0	18	32	36	11
My co-operative education experience has helped me to understand how to succeed at work.	3.58	(N) 1	4	6	9	6	2
		(P) 4	14	21	32	21	7
The job contacts I have made during my co-operative education program have put me in a better position to get a full-time job.	3.76	(N) 0	5	6	4	10	3
		(P) 0	18	21	14	36	11
My experience in the co-operative education program has taught me how to get along better with others.	3.24	(N) 1	6	7	8	3	3
		(P) 4	21	25	29	11	11
My co-operative education experience has given me the opportunity to improve the skills I have learned in school.	3.48	(N) 4	2	3	10	6	3
		(P) 14	7	11	36	21	11
Being in the co-operative education program has made my school subjects seem more relevant.	3.64	(N) 2	0	9	8	6	3
		(P) 7	0	32	29	21	11
The things I have learned at my training station have helped me to better understand my school work.	3.52	(N) 2	4	5	7	7	3
		(P) 7	14	18	25	25	11

TABLE D-20 (Continued)

Item	Mean Rating		Number (N) and Percentage (P) of Respondents per Response Category[a] 1	2	3	4	5	NA/NR
Negative Statements:								
The tasks and duties which were assigned to me at my training station were boring.	2.54	(N)	4	12	4	4	2	2
		(P)	14	43	14	14	7	7
At my training station, I have been unable to use anything that I learned at school.	2.58	(N)	6	9	3	6	2	2
		(P)	21	32	11	21	7	7
There is no relationship between what I have learned at my training station and what I learn at school.	2.23	(N)	6	12	5	2	1	2
		(P)	21	43	18	7	4	7
Since I started in the co-operative education program I have found school more boring.	2.24	(N)	3	15	5	2	0	3
		(P)	11	54	18	7	0	11
I have learned few new skills at my training station.	2.85	(N)	5	7	4	7	3	2
		(P)	18	25	14	25	11	7

[a]1 = Strongly disagree
2 = Disagree
3 = Not sure
4 = Agree
5 = Strongly agree
NA/NR = Not applicable or no response

TABLE D-21

EFFECT OF PROGRAM ON RE-ENTRY STUDENTS' DECISION MAKING

Student Group	No.	%
All Re-Entry Students (N=28)		
My co-operative education experience has made me see the need to continue my schooling.	15[a]	54[a]
My co-operative education experience has made me decide to enter the work force earlier than I had originally planned.	5[a]	18[a]
Students Who Had Decided on a Career Before Taking Part in the Program (N=20)		
My co-operative education experience has made me sure of my decision.	11	55
I have changed my plans and have decided on a different type of job in the same field.	1	5
I have changed my plans and have decided on a completely different career.	2	10
I am now more confused about the kind of work I want to do.	1	5
My co-operative education experience has had no influence on my career decision.	3	15
No response	2	10
Students Who Had Not Decided on a Career Before Taking part in the Program (N=6)		
My co-operative education experience has given me a better idea of the kind of work I would like to do.	2[b]	33[b]
My co-operative education experience has given me a better idea of the kind of work I do not want to do.	1[b]	17[b]
I am still unsure as to the type of work I would like to do.	3[b]	50[b]

[a]Represents the number or percentage of students agreeing with the statement.

[b]These figures are not additive. Students were instructed to check any of the three statement that applied.

TABLE D-22

STUDENT RETENTION THROUGH THE CO-OPERATIVE EDUCATION PROGRAM: COLLEGIATE COMMUNITY INVOLVEMENT STUDENTS' SELF-REPORT FINDINGS (N=80)

Item	Mean Rating		Number (N) and Percentage (P) of Students per Response Category[a] 1	2	3	4	5	NA/NR
I had considered dropping out of school but decided to stay because of the co-operative education program.	2.46	(N)	30	12	3	11	12	12
		(P)	38	15	4	14	15	15

[a]1 = Strongly disagree
2 = Disagree
3 = Not sure
4 = Agree
5 = Strongly agree
NA/NR = Not applicable or no response

TABLE D-23

COLLEGIATE COMMUNITY INVOLVEMENT STUDENTS' PERCEPTIONS OF PROGRAM OUTCOMES: RESPONSES TO A LIST OF STRUCTURED QUESTIONS (N=20)

Item	Mean Rating		Number (N) and Percentage (P) of Respondents per Response Category[a] 1	2	3	4	5	NA/NR
Positive Statements:								
My co-operative education experience has given me a very good idea of what a full-time job would be like.	4.31	(N)	2	2	5	30	39	2
		(P)	3	3	6	38	49	3
I have more confidence now because of my experience in the co-operative education program.	4.24	(N)	1	5	3	34	35	2
		(P)	1	6	4	43	44	3
My co-operative education experience has helped me to understand how to succeed at work.	3.91	(N)	1	7	7	46	17	2
		(P)	1	9	9	58	21	3
The job contacts I have made during my co-operative education program have put me in a better position to get a full-time job.	3.77	(N)	2	5	23	22	22	6
		(P)	3	6	29	28	28	8

TABLE D-23 (Continued)

Item	Mean Rating		Number (N) and Percentage (P) of Respondents per Response Category[a] 1	2	3	4	5	NA/NR
My experience in the co-operative education program has taught me how to get along better with others.	3.96	(N)	0	6	11	39	20	4
		(P)	0	8	14	49	25	5
My co-operative education experience has given me the opportunity to improve the skills I have learned in school.	3.32	(N)	6	12	17	25	11	9
		(P)	8	15	21	31	14	11
Being in the co-operative education program has made my school subjects seem more relevant.	3.52	(N)	1	12	26	25	15	1
		(P)	1	15	33	31	19	1
The things I have learned at my training station have helped me to better understand my school work.	3.14	(N)	4	20	21	20	9	6
		(P)	5	25	26	25	11	8
Negative Statements:								
The tasks and duties which were assigned to me at my training station were boring.	2.07	(N)	27	31	11	3	5	3
		(P)	34	39	14	4	6	4
At my training station, I have been unable to use anything that I learned at school.	2.72	(N)	13	26	19	12	9	1
		(P)	16	33	24	15	11	1
There is no relationship between what I have learned at my training station and what I learn at school.	2.96	(N)	11	19	15	24	7	4
		(P)	14	24	19	30	9	5
Since I started in the co-operative education program I have found school more boring.	2.46	(N)	15	33	14	11	5	2
		(P)	19	41	18	14	6	3
I have learned few new skills at my training station.	2.66	(N)	15	32	6	19	8	0
		(P)	19	40	8	24	10	0

[a] 1 = Strongly disagree
2 = Disagree
3 = Not sure
4 = Agree
5 = Strongly agree
NA/NR = Not applicable or no response

TABLE D-24

EFFECT OF PROGRAM ON COLLEGIATE COMMUNITY INVOLVEMENT STUDENTS' DECISION MAKING

Student Group	No.	%
All Community Involvement Program Students (N=80)		
My co-operative education experience has made me see the need to continue my schooling.	53[a]	66[a]
My co-operative education experience has made me decide to enter the work force earlier than I had originally planned.	20[a]	25[a]
Students Who Had Decided on a Career Before Taking Part in the Program (N=43)		
My co-operative education experience has made me sure of my decision.	21	49
I have changed my plans and have decided on a different type of job in the same field.	6	14
I have changed my plans and have decided on a completely different career.	7	16
I am now more confused about the kind of work I want to do.	3	7
My co-operative education experience has had no influence on my career decision.	4	9
No response	2	5
Students Who Had Not Decided on a Career Before Taking part in the Program (N=35)		
My co-operative education experience has given me a better idea of the kind of work I would like to do.	20[b]	57[b]
My co-operative education experience has given me a better idea of the kind of work I do not want to do.	8[b]	23[b]
I am still unsure as to the type of work I would like to do.	11[b]	31[b]

[a]Represents the number or percentage of students agreeing with the statement.

[b]These figures are not additive. Students were instructed to check any of the three statement that applied.

APPENDIX E

Collegiate Teachers' Perceptions of Outcomes:

A Comparison of Teachers in Five Different Programs

TABLE E-1

COLLEGIATE TEACHERS' PERCEPTIONS OF OUTCOMES:
A COMPARISON OF TEACHERS IN FIVE DIFFERENT PROGRAMS

Outcomes	Mean Rating (5-point scale[a])				
	Business Education (N=18)	Technical Education (N=8)	Academic (N=7)	Re-entry (N=6)	Community Involvement (N=8)
OVERALL HELPFULNESS OF PROGRAM	4.44	3.88	4.14	4.83	5.00
SPECIFIC OUTCOMES:					
Assisting students to develop a clearer understanding of employers' expectations in the world of work	4.67	4.38	4.57	4.67	4.43
Assisting students to develop marketable job skills	4.50	4.38	4.00	4.83	4.29
Teaching students methods of meeting employers' expectations in the world of work	4.39	4.29	4.14	4.50	4.43
Assisting students to clarify their career goals	4.61	4.29	3.86	4.50	4.43
Improving student self-esteem	4.39*	3.50*	4.29*	4.33*	4.57*
Assisting students to clarify their plans for post high school education	4.22	4.00	3.71	3.67	4.57
Reinforcing classroom learning of students	3.67	3.29	3.14	3.00	4.00
Increasing student motivation in school	3.00	3.25	3.43	NR	4.33
Retaining potential drop-outs in school	3.43*	2.14*	2.00*	NR	3.57*

[a]1 = Of little or no help
5 = Very helpful
NR = Not relevant
*One-way analysis of variance indicated a significant difference between means for this item ($p<.05$).

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